GD

CONVAIR EDITION

GENERAL DYNAMICS NEWS

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Ranger Launch Is Atlas' 28th Success in Row

The flawless launch of Ranger C last month raised to 28 the number of consecutive successful flights by the Atlas space launch vehicle.

For Launch Conductor Orion H. Reed and his crew at Cape Kennedy's Complex 12, Atlas 196-D, the Ranger booster, was a fourth consecutive perfect countdown, and the fourth consecutive launch to be made precisely at the opening of the mission "window."

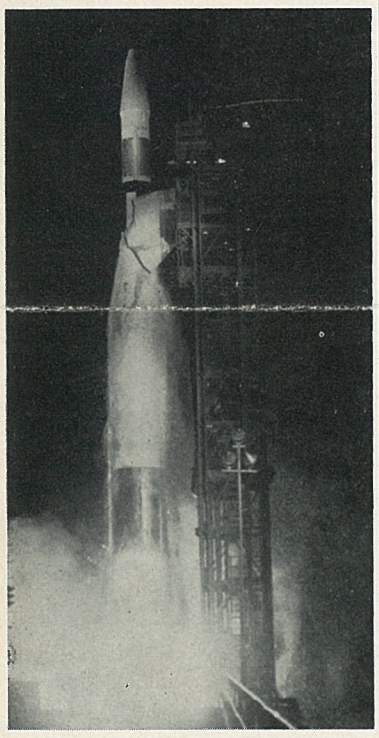
The 10-story high Atlas/Agena/Ranger combination lifted from the Florida launch site at 9:05 a.m. (PST), Feb. 17, to begin the complex sequence of events which some 65 hours later placed the Ranger spacecraft on the moon.

Atlas' job was complete by 9:12 a.m. At that time it had positioned the Agena/Ranger combination for a 115-mile-high parking orbit over the South Atlantic where the spacecraft coasted until 9:26. Then Agena fired again to race Ranger C to escape velocity and to the final lap of its lunar voyage.

The travels of Ranger C ended Saturday morning (Feb. 20) when it plummeted into the moon's Sea of Tranquility after its six television cameras flashed over 7,000 photographs of the lunar surface back to earth during the last 23 minutes of its flight.

The recent mission was the eighth in a series, launched since August, 1961, for National Aeronautics and Space Administration. Its photos, together with those from the earlier and equally successful Ranger 7, comprise a key part of men's accumulating knowledge of the lunar surface.

In months to come, this will be augmented by still another Ranger photographic mission, by the Surveyor soft-landing spacecraft (to be launched by Atlas and GD/Convair's high-energy Centaur space vehicle), and finally by the manned lunar landings of NASA's Project Apollo.



MOON-BOUND—Atlas LV-3A with Agena second stage lifts from Cape Kennedy launch site with Ranger spacecraft bound for moon. Proven reliability with 28 consecutive successful launches (plus the "four-for-four" record in Mercury man-in-space program) has earned Atlas continuing role in U.S. space ventures.

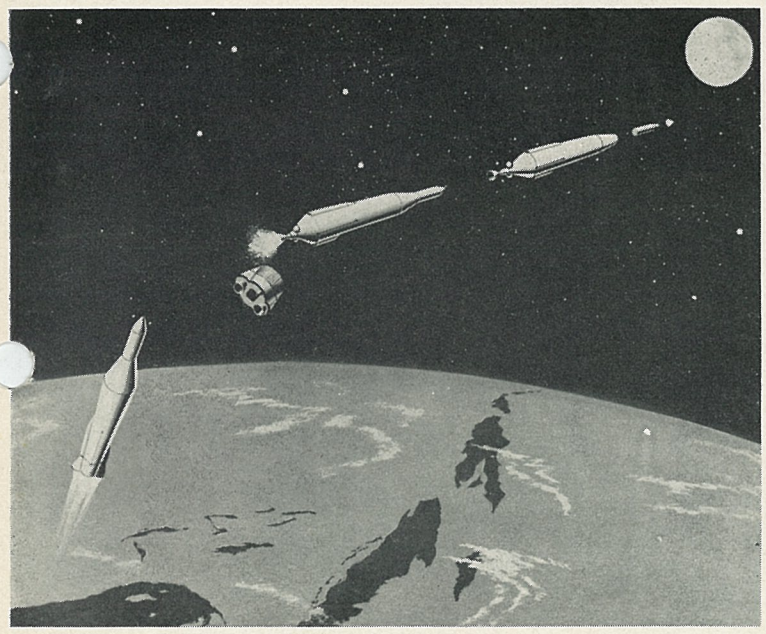
Two More 240s Returning For Jet Modification

Two more Convair-Liner 240s will be in-plant at Convair Plant 1 before the end of this month to join the prototype Dart-Convair 240-D in the current propjet conversion program with installation of Rolls-Royce Dart R. Da. 10 engines.

All three 240s have been obtained by Convair from Garuda Indonesian Airways.

The second transport arrived in the San Diego plant Feb. 12 after a ferry flight from Hong Kong. The third probably will be delivered to Convair within the next couple of weeks.

A Convair crew of W. B. Harwell, pilot; Loren Pilling, co-pilot; and Ludy Knudsen, flight engineer, flew No. 2 across the southern transpacific route, landing en route at Manila, Guam, Wake Island, Honolulu, and Oakland. The last two 240s are equipped with two auxiliary fuel tanks, each containing 220 gallons, to carry the planes across the long over-water route. First 240 was flown to San Diego via the Aleutians last October.



THROUGH THE "WINDOW"—Drawing indicates role of Atlas in Ranger missions. At left, Atlas with five engines blazing, hurtles from launch site; booster engines then drop away while sustainer and verniers continue to burn; finally Atlas and Agena separate upon reaching "space window," and Agena continues toward orbit from which spacecraft is released for final phase of journey.

Congratulations Sent On Success of Atlas

GD/Convair President J. R. Dempsey received the following telegram from E. C. Welsh, executive secretary, National Aeronautics and Space Council, on the occasion of Atlas' 28th consecutive successful flight:

"CONGRATULATIONS ON THE CONTINUING SUCCESS OF ATLAS WITH SPECIFIC REFERENCE TO RANGER VIII FLIGHT."

Noted Author Will Address Club March 9

An outstanding speaker, distinguished guests, and special ticket prices are in store for Management Club members when the group gathers March 9 in International Room, El Cortez Hotel.



Dr. Fuller

The meeting is sponsored by GD/Convair industrial relations department headed by M. V. Wisdom, director.

Algie A. Hendrix, General Dynamics Corporate vice president-industrial relations, who will attend, arranged for the speaker of the evening. He is Dr. Stephen H. Fuller, who will speak on "Handling Resistance to Change."

Dr. Fuller holds degrees in industrial and business administration and is the author of several books and articles in this field. He has frequently served as an industrial consultant.

To encourage maximum attendance for this timely subject, the club has arranged a special rate of $2.50 per person for the dinner

(Continued on Page 2)

Club's Award Night Set For March 24

President's Award Night for Convair Plant 1 Management Club is set for March 24 in the main Convair cafeteria, Pacific Hwy., W. J. Wood, club president, announced.

J. H. Famme, Convair vice president of aircraft programs, will announce the 1964 winner of top cost reduction honors and present the plaque bearing the individual's name. The award winner also will receive a $250 merchandise gift of his choice.

Eligible candidates are: Bertha Wilson, Dept. 34; E. R. Hockert, also Dept. 34; H. A. Mohr and Howard Woodard, both Dept. 101; N. P. Pearson, Dept. 141; and L. W. Stamper, Dept. 119.

In addition, MacSave-it trophy winners for the last five months will be announced.

Dinner tickets, at the low, low price of 50 cents each, will be on sale by March 10 at all regular Plant 1 outlets.

Mgt. Clubs to Join For April Meeting

Following previously scheduled separate meetings this month, the two Management Clubs serving Plant 1 and Plants 71/19 will conduct joint meetings during April, May and June.

At this time elections will be held and the two groups will be reconstituted as GD/Convair Management Club, serving the entire division.

Key Appointments Made For Staff

Reconsolidation last month of two major San Diego-based operations of General Dynamics Corporation as GD/Convair has been followed by announcement of key staff appointments for the division.

Top "project" executives, as announced by J. R. Dempsey, division president, include:

SPACE LAUNCH VEHICLES—C. S. Ames, vice president and program director.

AIRCRAFT PROGRAMS — J. H. Famme, vice president.

CENTAUR — G. L. Hansen, vice president and program director.

MANNED SPACE SYSTEMS—Mort Rosenbaum, vice president.

Other staff assignments:

OPERATIONS—E. D. Bryant, vice president—operations.

RELIABILITY CONTROL—P. I. Harr, director.

RESEARCH, DEVELOPMENT & ENGINEERING—R. C. Sebold, vice president.

Key "institutional" organizations announced by GD/NEWS presstime include:

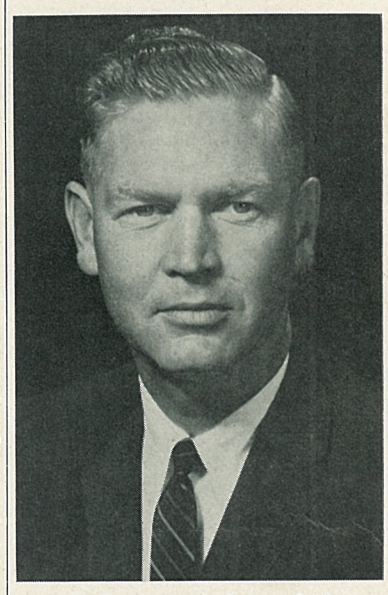
LEGAL—Reporting to **H. Cushman Dow,** general counsel: **E. F. Kotts,** patent counsel; **W. W. Waddell Jr.** and **M. P. Lovett,** assistant general counsels; **R. L. Peck,** associate counsel. Reporting to Kotts: **A. Valukonis,** patent attorney, and **S. W. Kern,** patent engineer.

INDUSTRIAL RELATIONS—Reporting to **M. V. Wisdom,** director: **P. S. Bazler Jr.,** personnel planning administrator; **H. W. Carrell,** wage and salary manager; **R. A. Evans,** personnel administration manager; **R. E. King,** labor relations manager; **P. F. Veal,** industrial relations chief—Plants 1 and 19; **Dr. A. J. Bellanca,** chief physician; **W. E. Bowman,** industrial security manager.

Reporting to Evans: **J. A. Croft,** educational services chief; **W. B. Jones Jr.,** employment manager; **J. K. Field,** employee services chief; **J. W. Garrison,** chief safety engineer; **H. E. Pasek,** professional placement and personnel chief.

COMMUNICATION — Reporting to **C. T. Newton,** director: **R. T. Blair,** manager of community relations, public information and presentation; **H. R. Kennedy,** technical publications project administrator; **M. A. Young,** graphic reproduction manager; **John Hynd,** motion pictures and television manager; **E. H. Boldrick,** still photography manager; **S. B. Hodge,** industrial graphics manager; **A. H. Gross,** editorial manager; **Lou Canter,** library and information services manager.

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J. R. Dempsey, pictured above, now president of Convair Division (formed by recombining Astronautics and Convair) announced members of his staff soon after the reconsolidation.

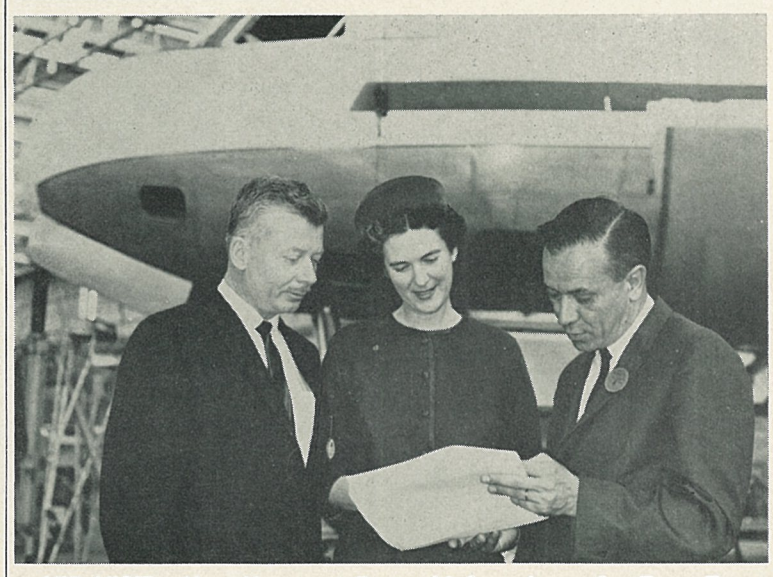
BARGAINS OFFERED IN SAFETY SHOES

A clearance sale of over 200 pairs of safety shoes at prices slashed in half will start next week (March 8) at all Convair safety cribs, J. W. Garrison, chief safety engineer, announced.

The inventory reduction of the supply of shoes is due to consolidation of the divisions and anticipated relocation of the Plant 1 safety crib in the near future, said Garrison. For the present, Plant 1 crib remains in Bldg. 32.

Average sale price of the shoes will be in the neighborhood of $5 a pair. A range of styles and sizes, in black and brown, will be available to first customers. Shoes will be on sale as long as the limited supply lasts.

Sales hours at the Plant 1, 19, and 71 safety cribs are carried elsewhere in this issue of GD/NEWS.



VIP VISIT—Mrs. Margaret Post, chief engineer for Trans-Texas Airways, Inc., Houston, Texas, confers with R. K. Hall of Convair customer requirements (left) and R. E. Sommers of service engineering during recent visit to San Diego facility to review engineering details of Dart-Convair program. Trans-Texas 240s will be converted to 240-D propjet version. Prototype 240-D is in background in Plant 1's Bldg. 2.

Log Book Entries

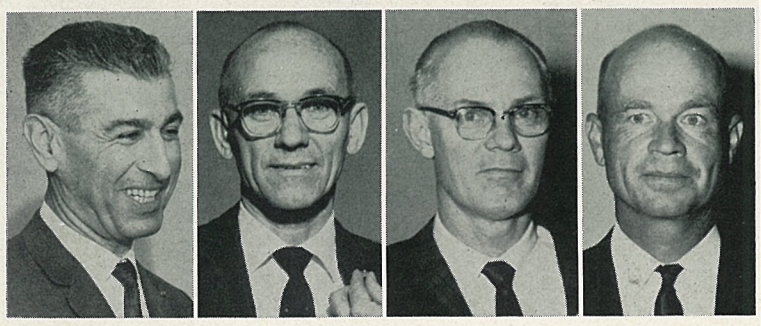
25-Year Men Recognized



From left: F. N. Minter, Dept. 90-0; J. T. Mitchell, Dept. 124; J. G. Elston, Dept. 401; Stanley Penziul, Dept. 115.



From left: Jerry Hawkins, Dept. 528-3; Luther F. Ballou, Dept. 692-0; Carlton J. Johnson, Dept. 420-0; G. A. Knauss, Dept. 143-5.



From left: Glenn Karel, Dept. 528-3; J. R. Ernst, Dept. 151-0; Frank H. Miller, Dept. 526-6; Lou Grant, Dept. 195-0.



Calvin M. Shackelford, Dept. 756-0, left; W. M. Scott, Dept. 143-1.

Invention Disclosures

NICHOLS—G. P., Dept. 380-6. Emergency Vehicle Warning System.

ROSCISZEWSKI—J. J., Dept. 596-0. Steady State Closed Cycle Fissionable Gas Power Generator.

STEPHENS—P. B., Dept. 583-0. Residual Burning.

SMITH—N. L., Dept. 971-5. Harness Tie Cutter.

WRENCH—E. H., Dept. 010-5. Improved Deployable Boom.

Personals

We will always remember with deep gratitude the kind expressions of sympathy extended by Convair friends at the loss of our brother and uncle, Thomas H. Parker (retired).

The Brown family
The Smith family
The Steiger family.

* * *

My mother, my family and I wish to express our appreciation to all GD/Convair employees for the flowers and expressions of sympathy received at the death of my father.

D. J. Gallagher, Dept. 831-1.

Rider-Driver

RIDE WANTED—12 midnight to 7 a.m. from Solana Beach to Plant 1. Richard E. Scott, Dept. 101. Home phone, 755-2395.

Births

HARTWIG—Daughter, Gaylene Louise, 6 lbs., 15½ oz., born Feb. 11, to Mr. and Mrs. G. Hartwig, Dept. 250-1.

KORTY—Son, Kevan Michael, 7 lbs., 13 oz., born Feb. 3 to Mr. and Mrs. C. H. Korty, Dept. 595-0.

General Dynamics News

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Convair division editorial offices: Plant 71 (Kearny Mesa) Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Plant 1, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYEES—Educational services staff, ext. 1931, Plant 71. Three hours; Monday, April 5, 8-11 a.m., Room 6, Bldg. 17, Plant 71.

PROFESSIONAL/TECHNICAL

DART ENGINE SYSTEMS — D. R. Maxion, ext. 491, Plant 1. Eighty hours; daily, 7-11 a.m. March 15 - April 9, Bldg. 14, Room 8, Plant 1.

INFORMATION STORAGE & RETRIEVAL—Dennis Suchecki, ext. 1931, Plant 71. Ten hours; Monday, Wednesday, Friday, 8:30-10:30 a.m., March 1-10, Room 2, Bldg. 17, Plant 71.

PLASTIC TECHNOLOGY (For Mixing Room Personnel)—Hal Rubin, ext. 1931, Plant 71. Limited enrollment. Ten hours; daily, 3:45-4:45 p.m., March 22-April 2. Bldg. 27 Lab & Bldg. 33 conference room, Plant 71.

PRODUCT IMPROVEMENT PROGRAM—Will Weidenfeller, ext. 1931, Plant 71. Limited enrollment. Four hours; daily, 7-8 a.m. Operations conference room, Bldg. 5, Plant 71. Group 2: March 8, 9, 10, 11. Group 3: March 15, 16, 17, 18. Group 4: March 22, 23, 24, 25.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota, call ext. 1931, Plant 71. Weekly, 7 a.m. 3:45 p.m., Room 4, Bldg. 17, Plant 71.

VALUE ENGINEERING SEMINAR—Everett Lindem, ext. 1931, Plant 71. Limited enrollment. Forty hours; 8 a.m.-5 p.m., March 8; 8 a.m.-noon, March 9-19. Clubhouse, Plant 71.

AFTER HOURS TRAINING IN-PLANT

BOOLEAN ALGEBRA (Engineering application)—Jim Hanratty, ext. 1931, Plant 71. Twenty hours; Tuesday 5-7 p.m., March 2-May 4, Room 2, Bldg. 17, Plant 71.

Retirements

COOKE—Marian R., Dept. 576-3. Seniority date Oct. 8, 1957. Retired Jan. 8.

FERSON—James R., Dept. 42-1. Seniority date Aug. 7, 1950, retired Nov. 24, 1964.

FITE—Fred A., Dept. 833-3. Seniority date April 4, 1958. Retired Feb. 1.

FREEMAN—Henry P., Dept. 812-0. Seniority date Jan. 14, 1957. Retired Feb. 1.

MEYER—Howard, Dept. 335. Seniority date Oct. 31, 1958. Retired Feb. 1.

MILLMAN—Homer B., Dept. 101. Seniority date March 19, 1951, retired Dec. 21, 1964.

ROSE—Eva J., Dept. 14-6. Seniority date March 22, 1951, retired Dec. 14, 1964.

ROSS—Guilford C., Dept. 101. Seniority date Nov. 7, 1950, retired March 16, 1964.

SCOTT—Carl E., Dept. 759. Seniority date Aug. 3, 1956. Retired Feb. 1.

SHOUPE—Charles W., Dept. 380. Seniority date Jan. 1, 1960. Retired Dec. 1, 1964.

SULLIVAN—James L., Dept. 400-5. Seniority date Sept. 13, 1951, retired Nov. 14, 1964.

SWEETING—William W., Dept. 130-1. Seniority date July 27, 1951. Retired Feb. 1.

SWOPE—Clay L., Dept. 42-1. Seniority date Dec. 7, 1950, retired Nov. 14, 1964.

Deaths

CORNISH—Frank L., Dept. 147-3. Died Feb. 2. Survived by wife, Evelyn.

EMETERIO—Peter, Dept. 758-0. Died Feb. 14. Survived by wife, Beatrice, Dept. 143-3.

LEARY—Isaac H., Dept. 571-3. Died Feb. 10. Survived by wife, Dorothy.

New S-C Mgt. Club To Receive Charter

Newly-formed Stromberg-Carlson Management Club at San Diego will receive its National Management Association charter March 11 at a dinner meeting at the Bronze Room and Restaurant, La Mesa.

Social hour starts at 5:30 p.m., followed by dinner at 6:30. Tickets at $3.75 per person now are on sale by all S-C departmental representatives.

Safety Crib Hours For Plants Listed

New schedule for safety crib hours at GD/Convair's three San Diego plants, announced by J. W. Garrison, chief safety engineer, is as follows:

Plant 71—Mondays and Fridays, 12:30 to 5 p.m.; Tuesdays and Thursdays, 9 a.m. to 2 p.m. and 4 to 5 p.m.; Wednesdays, 3 to 5 p.m.

Plant 1 — Mondays, Wednesdays, and Fridays, 8:15 to 11:30 a.m.

AF Plant 19 — Wednesdays, 12:30 to 2:30 p.m.

For emergency service at all other times at Plant 71 and AF Plant 19 contact the Plant 71 safety office ext. 765; at Plant 1, call ext. 464.

Plant 1 Doubling Auto Park Space

Out-of-plant parking for General Dynamics people at Plant 1 is being doubled with the extension of parking space between India St. and Kettner Blvd., J. K. Field, chief of Convair employee services, announced.

The area north of Sassafras St. is being filled and leveled to connect with the present temporary parking lot bounded on the north by Vine St. The whole area now available for plant parking extends from south of Redwood St. north to Vine.

Additional parking area will accommodate 300 more cars increasing total parking spaces to over 500.

Tool Store Hours Set For Facilities

Employees' tool store at Convair Plant 19 was closed this week, and hours at the Plant 1 tool store extended to an all-day schedule.

Hours at the Plant 1 store on the north side of Bldg. 10, near the transportation office, now are from 7:30 a.m. to noon, and from 12:45 to 4 p.m., Mondays through Fridays.

Plant 71 tool store, located in Bldg. 5, H-1, continues on its present schedule: 9 to 11:45 a.m. and 12:30 to 5:30 p.m.

Tool stores are operated by the Western Metal Supply Co.

Here Is Schedule Of Inter-Plant Bus

Inter-plant bus service has been increased to provide one departure each half-hour from Plant 71, 7 a.m. to 3:30 p.m. omitting one run at noon.

Trips to Plant 19 originate at Plant 71 on the hour and half-hour. They leave Plant 19 20 minutes later for Plant 1. From Plant 1, buses will leave on the hour and half-hour for Plant 19, then return to Plant 71.

The first two runs each day (7 and 7:30 a.m.) from Plant 71 go directly to Plant 1, omitting the Plant 19 stop.

GD/E's Mgt. Club Meets March 17

Members of the GD/Electronics Management Club at San Diego will gather March 17 at Mickie Finn's, 1051 University Ave., for an evening of "refreshments" and music.

Social hour is from 6 to 7 p.m. with dinner at 7. Tickets at a reasonable price are on sale by departmental representatives.

Key Appointments Made For Staff

(Continued from Page 1)

CONTRACTS — Reporting to **C. W. Blakey,** director: **F. S. Chambers,** manager of contracts; **M. S. Bickers,** manager, contract technical requirements. Project contract managers are **R. J. Ridell,** SLV, and **T. C. Courington,** Centaur.

Reporting to Chambers: **G. R. Vetter,** chief, non-projectized contracts, incoming inter-division work assignment; **E. H. Boardman,** administrator, facilities and government property; **T. P. Dougherty,** coordinator, document review and coordinator; **A. T. Wood,** chief, pricing and new proposal development.

Reporting to Bickers: **D. C. Templeton,** administrator, data and systems management coordination; **W. F. Brown,** administrator, data control; **H. B. Farrar,** administrator, specification coordination; **E. J. Pawka,** administrator, proposal support and industry/government coordination.

FINANCE — Reporting to **E. G. Hill,** controller: **J. C. Abels,** program planning and control; **R. E. Carlson,** internal audit; **F. M. Wynkoop,** subcontract audit; **E. D. Heller,** cost reduction and value control; **J. D. Milling,** accounting manager; **David Epstein,** estimating manager; **E. Fox,** budget manager; **J. H. Johnson,** management systems manager.

Project financial control is headed by **J. B. Morgan,** SLV/AWS; **J. C. Cannady,** Centaur.

Organizations for Operations, Reliability Control, and Research, Development & Engineering will be announced later.

Distinguished Speaker Slated For Mgt. Club Meeting Mar. 9

(Continued from Page 1)

meeting. Tickets are now available. Club President D. K. Slingsby has issued a special invitation for eligible Plant 1 employees to attend.

Other evening highlights will include presentation of the 1964 President's Award by J. R. Dempsey, plus the introduction of Management Club Men-of-the-Month for November, December, January and February.

The event will begin with a social hour at 5:45, with dinner at 6:45 p.m.



AT HEAD TABLE—Algie A. Hendrix, right, Corporate vice president-industrial relations, shown at Kearny Mesa plant with J. R. Dempsey, Convair president. Hendrix will be present at Management Club meeting next week when Dempsey makes annual President's Award for outstanding cost improvement effort.

First Craftsmanship Award Of New Year Won by Dept. 731

First Craftsmanship award of the new year in GD/Convair's zero defects-type Do Good Work program was made last month with victor's laurels coming to rest in machine shop (Dept. 731) at Kearny Mesa.

President J. R. Dempsey was on hand to present the plaque and Craftsmen of the Month banner to W. T. Herchold for department employees at Plant 71.

Machine shop earned the January award with a Quality Index of 115.2. It was the second "win" for the Bldg. 5 group, who previously scored in March of last year.

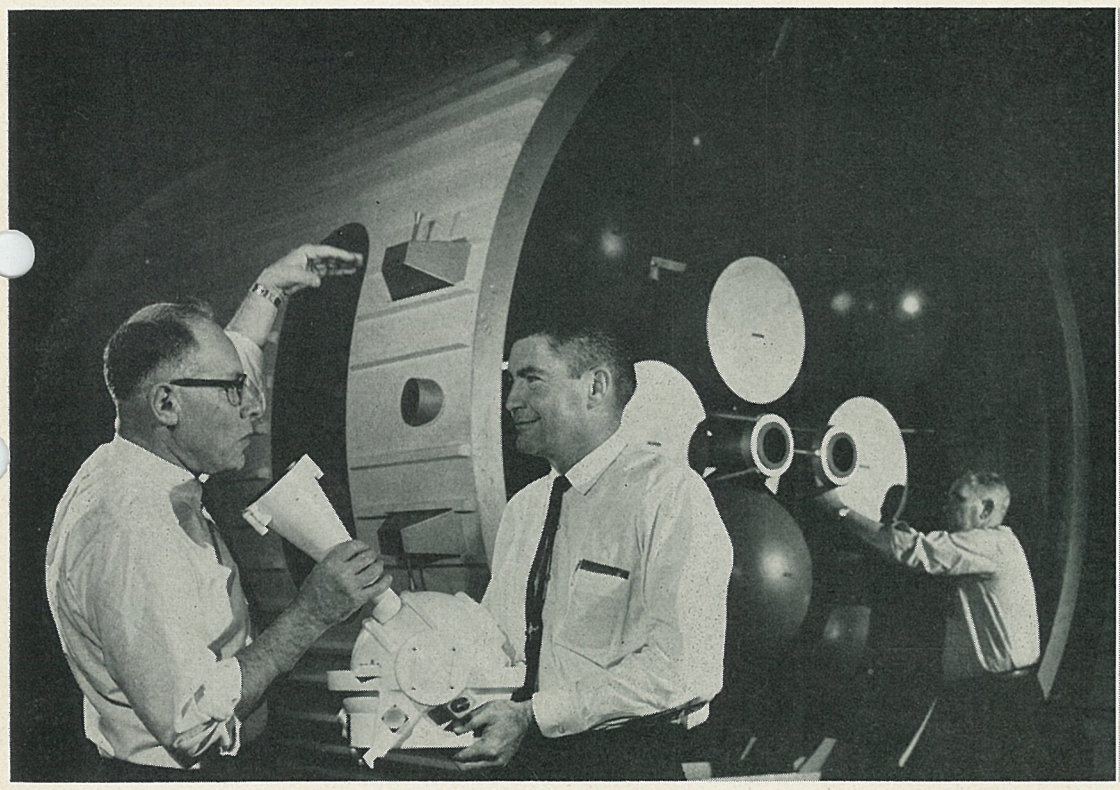
Award presentations for other winners at Vandenberg AFB (WTR) and Cape Kennedy were scheduled this week.

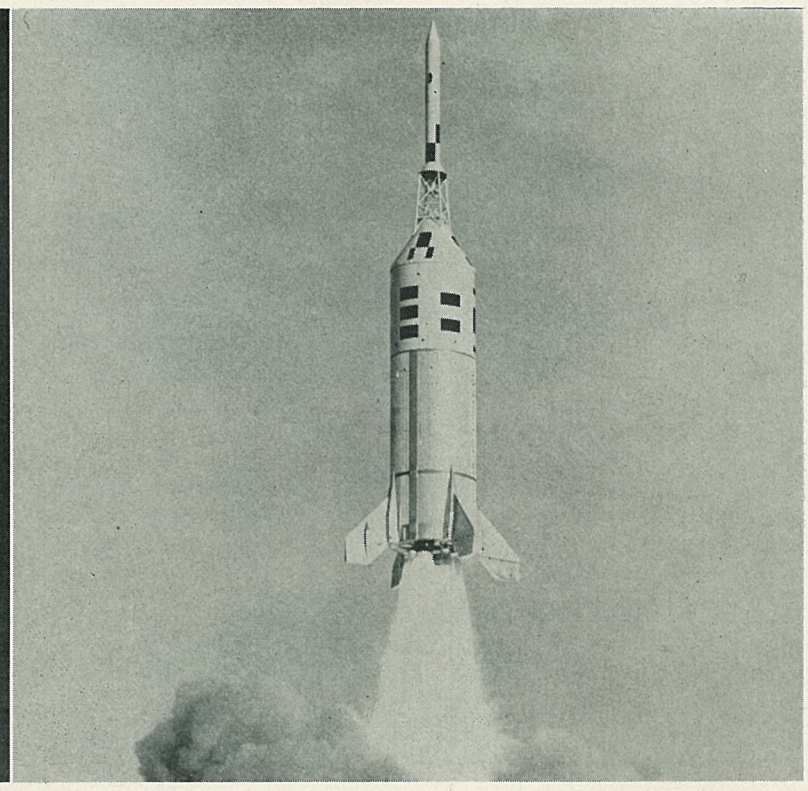


MONTH'S BEST — Modern numerical control equipment forms backdrop as President J. R. Dempsey makes presentation of January Craftsmanship plaque to W. T. Herchold, accepting on behalf of Dept. 731 (machine shop) at Kearny Mesa plant.

Substantial Slice . . .

Reunion of Astronautics and Convair facilities as a single operating division of General Dynamics brings about a formidable concentration of capability. As President J. R. Dempsey said in a letter to employees: "With the combined division we are in a better position to compete for the types of programs now available in our market: manned space systems, aircraft, liquid and solid fuel launch vehicles, oceanographic and weather research systems; in fact, a substantial slice of the present aerospace market." Highlighted on this page are a few of the outstanding present products.

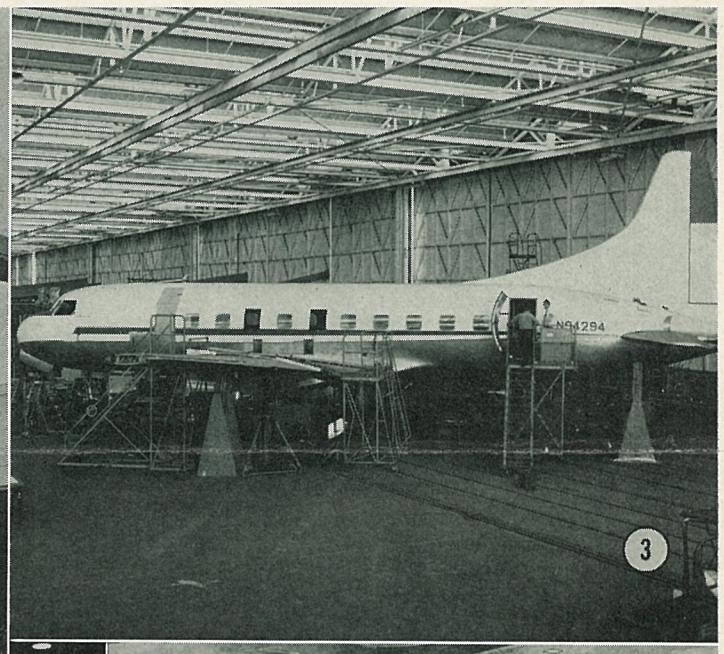


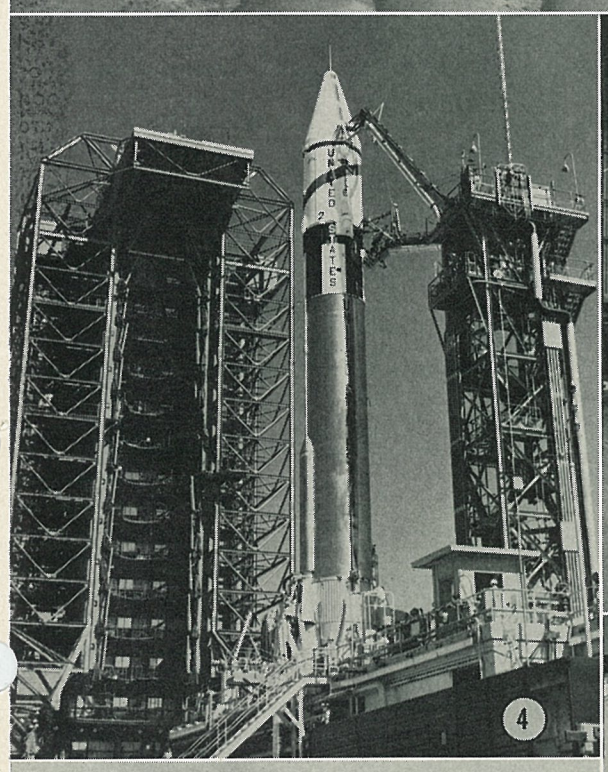


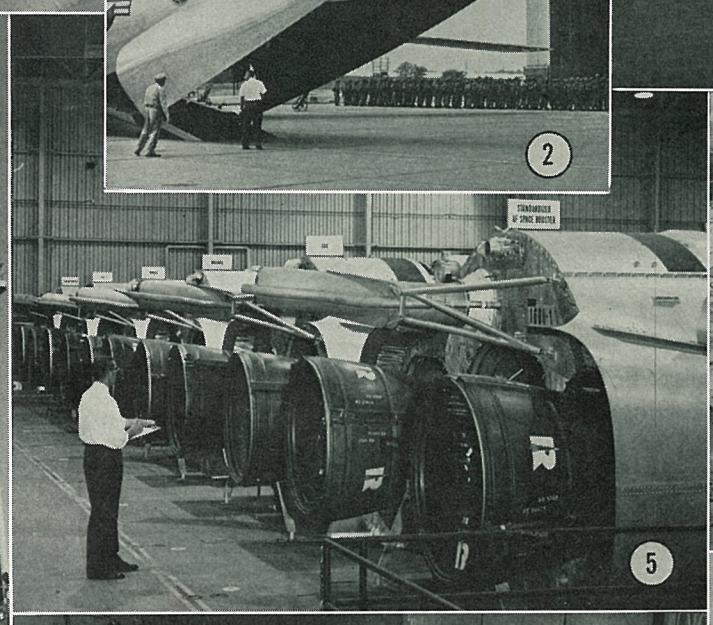
FOR TOMORROW — At left, above, full-scale mockup of Manned Orbiting Laboratory (MOL) is checked by R. H. Richards, extreme right, with Vice President Mort Rosenbaum at left. Don Germeraad holds star-tracker model. Manned space systems program, headed by Rosenbaum, typifies forward-looking efforts at Convair division. Shot at right shows Convair's Little Joe II solid fuel launch vehicle as it boosts a dummy Apollo spacecraft aloft. Low-cost, expendable Little Joe II vehicle is built for National Aeronautics and Space Administration for sub-orbital testing of Apollo spacecraft.

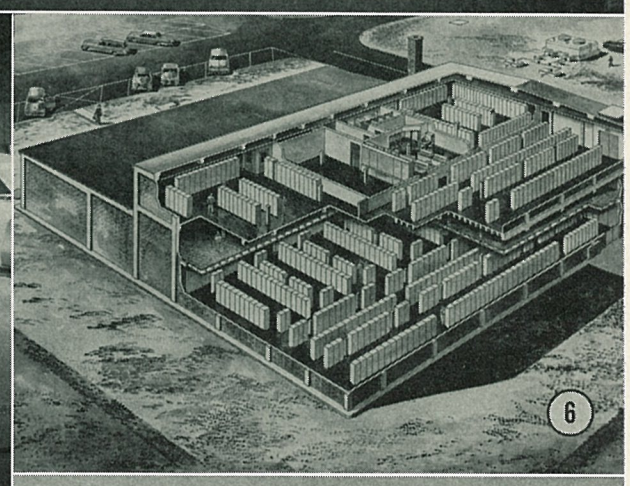


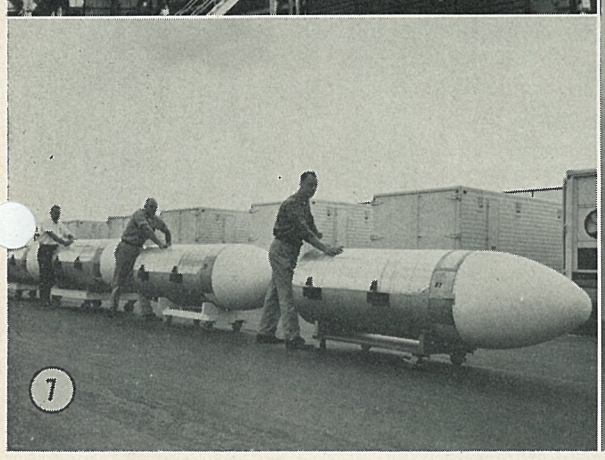


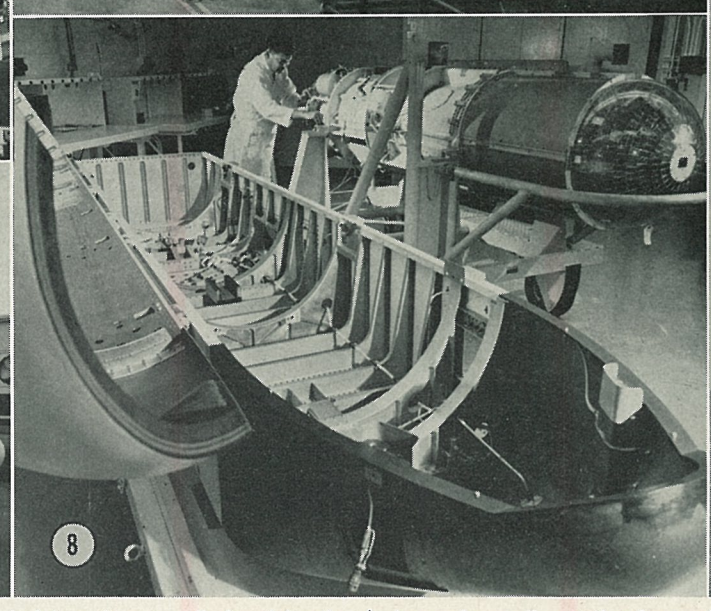


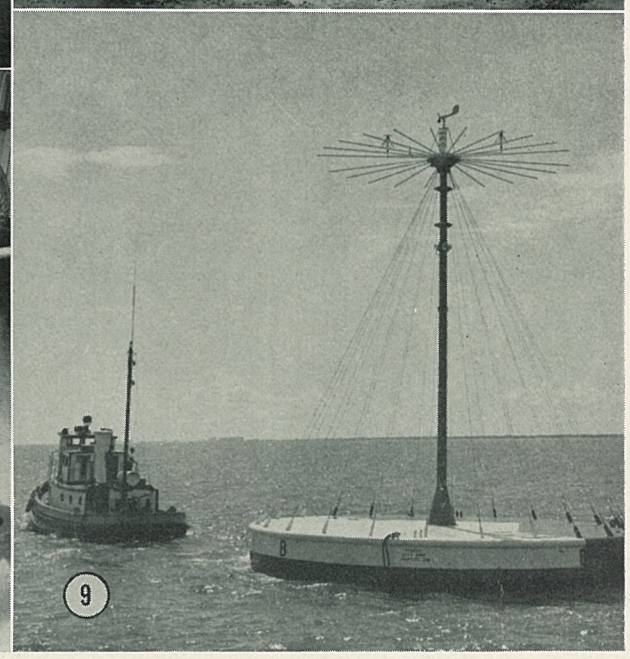




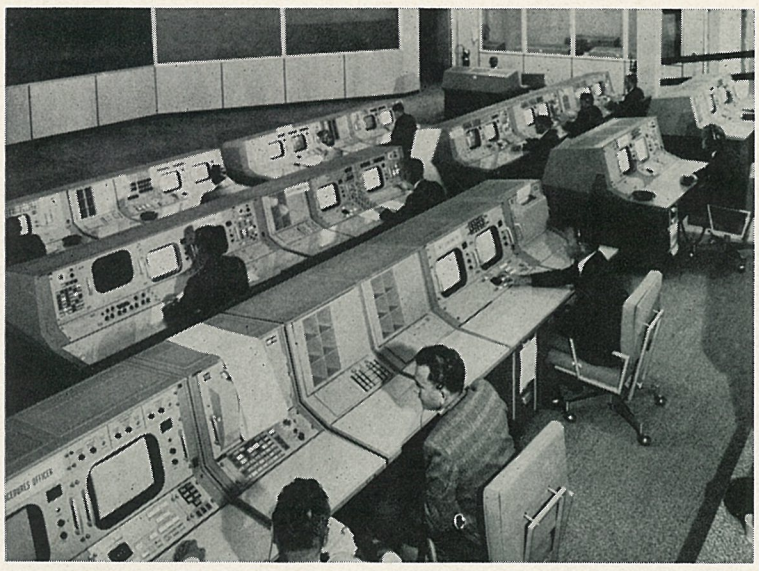








WIDE SPECTRUM — Vast capabilities and range of technological know-how are displayed in pictorial coverage of space, aircraft, electronic products now in work at Convair plants. No. 1: Convair's Model 48 Charger, first multi-mission brushfire warplane now in flight test and ready for production. No. 2: C-141 empennage Convair is building under subcontract from Lockheed-Georgia Co. for giant Air Force jet transport. No. 3: prototype Dart-Convair 240-D, propjet version of 240/340 Convair-Liner powered by Rolls-Royce. No. 4: liquid hydrogen-powered Centaur at launch site, Cape Kennedy Complex 36-A. Convair is constructing free world's first high-energy space vehicle for NASA. No. 5: line-up of Atlas SLV-3s, standardized Atlas space launch vehicles destined for variety of space launch roles. No. 6: artist's drawing of Merritt Island Central Telemetry Bldg., Fla., telemetry receiving and recording station for monitor of launch operations at Air Force Eastern Test Range for which Convair has contract to supply, install, integrate advanced instrumentation, known as TEL-4 program. No. 7: shot of ballistic "piggy-back pods." Since 1962 more than 20 of these "free-loader" pods have carried a variety of scientific experiments into space mounted on launch vehicles. From scientific passenger pods evolved the Aerospace Research Satellite (ARS) in photo No. 8, produced for AF Office of Aerospace Research. Cradle in foreground is attached to booster, and when carried into space, propulsion module with solid fuel motor is released with satellite (right) for final injection into orbit. No. 9: Convair's first ocean data station telemetering buoy, Bravo, developed for Office of Naval Research as forerunner in wide-flung system for collection of scientific information at sea.



CONTROL CENTER—Interior view of NASA's Mission Control Center at Manned Spacecraft Center, Houston, Texas, center of a huge global network of tracking and communications stations providing centralized control for all future manned space flights. Stromberg-Carlson data display equipment will play large role in Center.

Stromberg-Carlson Produces New Data Display Unit for NASA

A new system which permits display of computer-generated data at a series of locations remote from a data processing center has been introduced by Stromberg-Carlson Corp., C. V. Shannon, manager of the Data Products plant at San Diego, announced last week.

Designated the S-C 1200, the system translates digital data from a computer into a visual format for display on the screen of one or more TV consoles. In the system, the computer feeds data to a data distributor. From the distributor, data is sent to the selected buffer which consists of a core memory, display generator, selection circuitry, load and unload circuitry. The buffer continuously repeats the information to a display generator to supply sufficient repetitions to permit flicker-free viewing of the data. Each buffer can drive four generators.

The display generator presents the data on the face of a special cathode ray tube in the form of letters, numbers, symbols and lines of any kind.

All data presented on the face of the display generator tube is scanned by a television camera and transmitted to a video switching unit. From there the desired channels of information are fed to monitors requesting a given channel. A single display generator can drive up to 100 or more video monitors at remote locations.

The display can be adapted to use a microfilm camera, in addition to or instead of, the video camera. This makes it possible to produce a permanent film record of any data that must be retained. Another option permits printing paper copies of output.

Direct view displays may be used instead of TV monitors, or may be used in parallel with microfilm/hardcopy systems.

The digital-to-video system is extremely economical since it is far less expensive to display data on a series of TV monitors than on a series of direct view displays. Also, the technique makes it possible to present many channels of information to each monitor. For example, digital data concerning a space launch may occupy one channel while video observation of the launch may occupy another.

A system using these techniques has been furnished by Stromberg-Carlson to the National Aeronautics and Space Administration's Manned Spacecraft Center in Houston, Texas.

Data Display Study Made For AF Center

Stromberg-Carlson Corp. has completed a $37,000 study contract to determine new techniques and design configurations for displaying data for the Rome Air Development Center, Griffiss AFB, N.Y.

The study was carried out in S-C's Data Products plant at San Diego, Calif.

At the conclusion of the program, S-C engineers proposed methods for developing display designs which will enable effective centralized control over strategic missile forces during the post-1965 era.

S-C in San Diego designed and built the Project Mercury Control Centers in Cape Kennedy and Bermuda, and is presently producing a major display system for use in the Apollo and Gemini projects in the National Aeronautics and Space Administration's Manned Spacecraft Center in Houston, Texas.

GD Men Will Teach In Welding Program

General Dynamics men will take instructors' roles in an educational program series sponsored by San Diego Section, American Welding Society, now in progress.

They are R. J. Gallagher, J. W. Bradley, R. C. Manary, W. M. Walker of GD/Convair, who will deal with topics such as gas-tungsten arc welding, gas metal-arc welding, plasma arc processes, friction welding and electroslag welding. Lou Harame of General Atomic will conduct a review at the final session.

Information on dates and location is available from Al Roush, GD/Liquid Carbonic, 278-0102.

J. H. Redman Elected Society President

Two Stromberg-Carlson men of S-C Data Products operation at San Diego were installed in top offices of the Society for Information Display at the Fifth National Symposium, Santa Monica, Feb. 25-26.

James H. Redman, manager of domestic marketing, is new president and Sherman Boyd, senior chemist in the research department, treasurer.

Redman will guide the activities of the scientific and professional organization, which presently has four local chapters and nearly 1,000 members from coast to coast. He and Boyd are both SID charter members.

R. E. Turnage Jr., also of Stromberg-Carlson at San Diego, is Western Region Director for the Society.

Charger Engineering Under R. E. Strayer

R. E. Strayer has been named responsible for the entire Convair Charger aircraft engineering development program.

All elements involved in the program pertaining to flight testing, technical analysis and design changes will be under Strayer's direction. He continues to report to E. D. Shannon, manager of engineering flight test.

ASQC Section Sets March 8 Meeting

General Dynamics members of the American Society for Quality Control, San Diego Section, may obtain tickets now for the March 8 meeting at the Bronze Room and Restaurant, La Mesa.

William H. Thompson, vice president and production manager of Golfcraft, Inc., will define the quality requirements for the manufacture and sale of golf equipment. R. L. Heath, director of quality assurance and reliability for Rocketdyne, will give a brief presentation on the ASQC career advancement program.

Social hour begins at 6; dinner at 6:30; program at 8 p.m. Dinner price, including tax and tip, is $2.50.

Reservations may be made through L. C. Stuckey, Convair Plant 1, ext. 646; Paul Gelles, Convair Plant 71, ext. 4505; R. F. Frederick, Convair Plant 19, ext. 509; J. A. Lederer, GD/Electronics Plant 1, ext. 1476; A. T. Fricke, Stromberg-Carlson Plant 2, ext. 36.

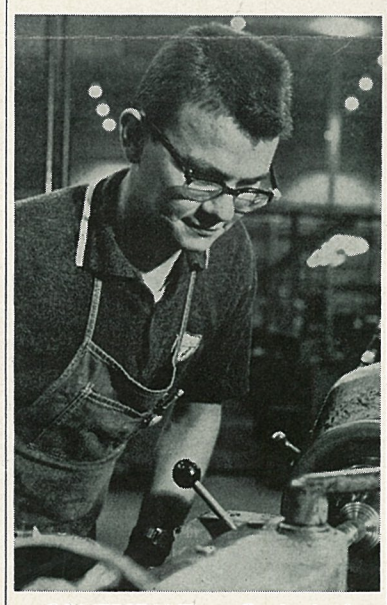
Archibald Speaker On Jr. Achievement

David Archibald, GD/Convair manager of quality control, was guest speaker at the Junior Achievers Association meeting last month at U. S. Grant Hotel, speaking on "Quality Control and JA."

He emphasized the role of quality in free enterprise, since with many suppliers of like or similar products, superior quality is often the only advantage to the customer.

Quality control plan elements were outlined to assist JA officers in applying the principles to their own organizations.

Archibald's appearance was one phase of support offered by the American Society for Quality Control to the JA program.



CONTESTANT — C. J. Anderson, graduating apprentice in GD program, represented Convair division in state contest in Los Angeles last Friday.

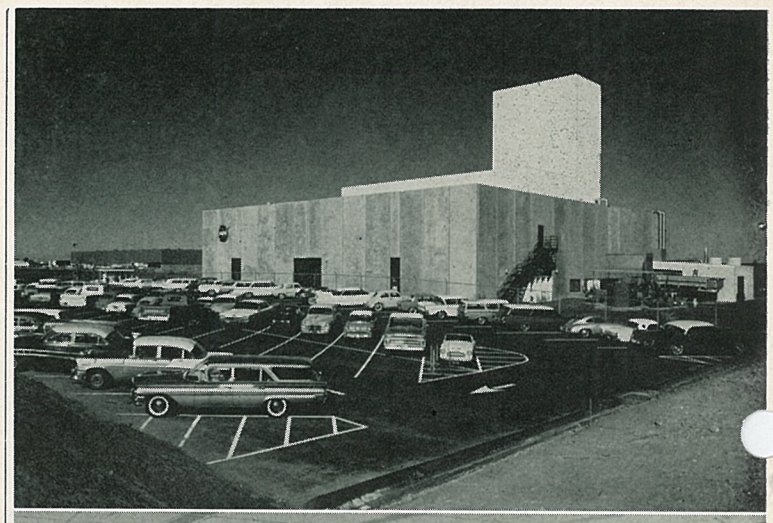
NEW APPRENTICE NO. 1 IN SAN DIEGO

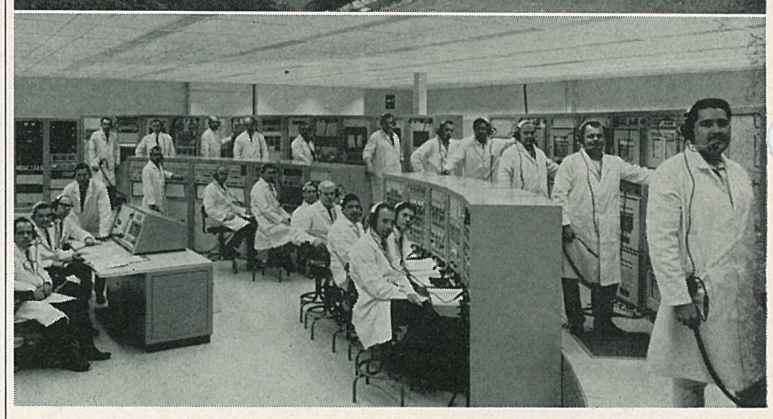
C. J. Anderson, who finished his four years in the company's apprenticeship program at Convair Plant 1 the first of this week, represented all of Convair division, and San Diego as well, in the California Apprenticeship Tool and Die Contest at Los Angeles Feb. 26.

Anderson, 24, tested his skill and knowledge against around 20 other four-year apprentices from throughout the state. Results were not known by presstime.

His record during his four years on-the-job training as tool and diemaker in Dept. 401 and also in his classwork at San Diego City College has been well at the top of his group, said L. W. Turner, educational services apprenticeship coordinator at Plant 1.

When telephoning, never mind the weather. Get to the point. Telephone time costs money.





NEW VIEWS—Recent external view of new NASA Combined Systems Test Stand (CSTS) located at GD/Convair's Plant 71 in San Diego, (top photo) is paired with interior scene showing just-completed control center which duplicates Centaur blockhouse at Cape Kennedy Complex 36-A. Manning stations are personnel assigned to facility, with Jerry Christ, assistant test conductor, and Fred Lee, CSTS chief, seated at extreme left.



S-C MARKETING MEET — Attending week-long Stromberg-Carlson data products marketing seminar Feb. 8-12 at San Diego are, from left (seated), J. H. Gurley, H. G. Cooper, based at New York City, Robert Campbell, Vee Lumpkins, Dennis Brending, Marie Porter, R. T. Hayde, presently assigned to Johnsville, Pa., Helen Wood, C. V. Shannon, S-C plant manager. Standing, from left, are: H. B. Cody, Mel Rice of Washington, D.C., field office, Hal Holmerud, J. H. Redman, manager of domestic marketing, T. E. Connelly, S. M. Chesler.

Con-Trib-Club Donation of $10,000 Added To Contribution in Vandenberg AFB Area

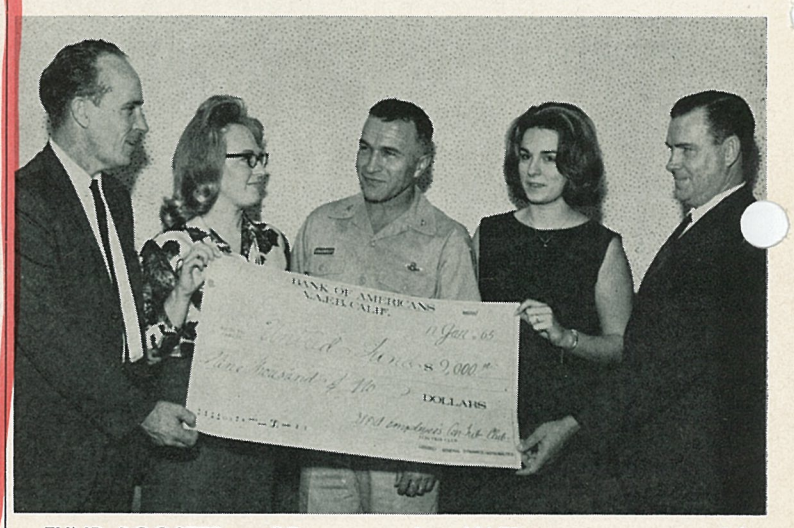
VANDENBERG AFB—A $10,000 gift to the base United Fund campaign is the latest contribution from Employees' Con-Trib-Club to charitable organizations in this area.

During 1964, the club granted a total of $21,206 to local charities.

Lompoc unit, American Cancer Society, termed GD folk "exemplary pacesetters." The Santa Maria unit called the gifts "symbolic of the wealth brought to our Valley by you and the members of your families . . . including educational standards, cultural levels, civic pride and a spirit of community participation."

Maj. Gen. S. W. Wells commended Con-Trib-Club for its "worthy contribution to the American Way of Life."

Serving on Con-Trib's Advisory Board here are P. F. Stone Jr., C. M. Bramley, R. E. Burns, A. L. Estalio, R. C. Ihrig, E. A. Millar, R. A. Clark, E. L. Genest, R. L. Hutchings.



FUND BOOSTER — GD personnel at VAFB were represented by P. F. Stone, left, Shirely Corn, Carol Jackley, second from right, and L. L. Jella, when Col. Verl B. Schoenveldt, base commander (4392 Aerospace Support Group), center, was presented with Con-Trib-Club check for base United Fund drive.

Skiers to Discuss Mammoth Weekend

Details of a weekend bus trip to Mammoth, March 12-14 will be disclosed at Astro Skiers meeting tonight (March 3), 7:30 p.m. in the Kearny Mesa Clubhouse.

Deposits of $11 per person will be accepted at the meeting, or reservations can be arranged by calling Bernie Paul, 277-7162. Trip price of $25 for club members (non-members, $26) includes round-trip chartered bus transportation, shuttle service, dormitory accommodations and two breakfasts.

Thirty skiers took part in an earlier weekend sortie to Mammoth Jan. 22, while 15 vacationing members traveled to Aspen for a week.

Square Dancers Join In PRA Celebration

Astro Nauts, Convair's square dancing group, will be guests of Pomona's Convairiety Steppers at the PRA club's 12th anniversary celebration March 6.

Commissioner Marty Stutz will head the San Diego contingent. Astro Nauts' callers, Dot and Van Vanderwalker, will assist Al Massaro of Whittier, guest caller.

Dancing will begin at 8 p.m., following dinner, in the Palomares Community Center, Orange Grove and Cucamonga Ave., Pomona.

Beginning Tennis Lessons Scheduled

Tennis lessons for novice players are being organized by CRA, and will be conducted on Plant 71 recreation area courts if interest warrants.

Lessons are free. However, participants will be expected to provide a can of heavy duty balls for use in weekly sessions over a 10-week period.

Details of the program are available from recreation headquarters, ext. 1111, or Commissioner Ray Hardy, ext. 2549, both Plant 71.

Gardening Experts Will Address Club

A plant exchange and a panel of gardening experts are planned for the Garden Club meeting today (March 3), 7:30 p.m., in Balboa Park's Floral Association Bldg.

Co-commissioners Everett Henderson and Gene Zimmerman have asked all those attending to contribute to a "plant table"—potted specimens, bare root types, bulbs, etc., — for the exchange.

Rockhounds Planning 'Dig' at Mesa Grande

This month's field trip for CRA Rockhounds (Plant 71) will be a one-day "dig" for tourmaline at Himalaya Mine near Mesa Grande, and details will be announced at the group's meeting, 7:30 p.m., March 10 in Kearny Mesa Clubhouse. Highlight will be a benefit sale of rough gemstone materials following the business session.

Sports Car Drivers To Convene Tonight

A "Seat of Pants" rally will highlight tonight's (March 3) gathering of Convair sports car drivers following a business session of the CRA club at Convair main cafeteria, Pacific Hwy.

John Zanari of Dept. 6, will direct the rally. Drivers will start from Bldg. 19 parking lot. Meeting time is 7:30 p.m.

CON-TRIB-CLUB GETS WINDFALL

Employees' Con-Trib-Club found itself "richer" last week on receipt of $167 from the guard and fire section of security at Sycamore Canyon Test Site (Dept. 131-1). Chief H. W. Gillespie said the funds had accumulated over a period of time, and guards and firemen chose Con-Trib as beneficiary.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for employees. For information call CRA Headquarters, Kearny Mesa, Plant 71, ext. 1111.)

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AEROMODELERS — Flying sessions Saturday and Sunday, 8 a.m.-1 p.m., Clairemont Mesa flying site.

BASKETBALL — Plant slow break league games Thursday nights, Balboa Park's Muni Gym.

BOWLING — Entries open for annual CRA plant championship tourney. Forms at local bowling alleys. Call Mike Brooks, Plant 19, ext. 410.

CAMERA CLUB — Meeting March 7, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COIN CLUB—Plant 1 meeting March 18, 7:30 p.m., Convair cafeteria, Pacific Hwy.

FENCING—Workouts and instruction Fridays, 7-10 p.m., YWCA, 10th and C Sts.

EXPLORERS—Meeting March 17, 7:30 p.m., Clubhouse, Kearny Mesa.

FISHING CLUB — Meeting March 17, Gillespie Field Clubhouse.

GARDEN CLUB—Meeting today (March 3), 7:30 p.m., Floral Association Bldg., Balboa Park.

GUN CLUB—CRA club shoot March 7, Gillespie Field Range.

ICE SKATING — Ice skating sessions for GD people, Mission Valley Ice Plaza, suspended until further notice.

MOVIES—Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot March 14, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB—Plant 1 group meets tomorrow night (March 4), 8 p.m., Harbor Drive club headquarters.

RIDING CLUB—Plant 1 group meets tomorrow (March 4), 7:30 p.m., Gillespie Field Clubhouse.

ROAD RUNNERS — Meeting March 18 Gillespie Field Clubhouse. Outing to Dana Point March 19-21.

ROCKHOUNDS — Plant 71 group meets March 10, 7:30 p.m., Kearny Mesa Clubhouse. Plant 1 group meets March 11, 7:30 p.m., Gillespie Field Clubhouse.

SNOW SKI—Plant 71 meeting today (March 3), 7:30 p.m., Kearny Mesa Clubhouse. Reservations for charter bus trip to Mammoth, March 12-14, accepted by Bernie Paul, 277-7162.

ROLLER SKATING — Family skate night March 15 at Skateland, Front & G Sts. Tickets at employee services outlets.

SPORTS CAR CLUB—Plant 1 group meets tonight (March 3) for business session and fun rally, 7:30 p.m., Convair cafeteria, Pacific Hwy.

STAMP CLUB—Plant 1 group meets tomorrow (March 4), 7:30 p.m., Convair executive dining room, Pacific Hwy.

SWIMMING — Free family swim night March 20, 7-9 p.m., Mission Beach Plunge. Tickets at employee services outlets.

TEEN CLUB—Dance March 6, 7:30-11:30 p.m., Kearny Mesa Clubhouse.

TENNIS — Novice lessons in planning. Information from CRA Kearny Mesa Headquarters, Plant 71, ext. 1111, or from Ray Hardy, Plant 71, ext. 2549.

TOASTMISTRESS — Serra Mesa club meets first and third Mondays, 7:30 p.m., Kearny Mesa Clubhouse. Information: Elinor Slater, Plant 71, ext. 2571; Scarlett Smith, membership chairman, Plant 71, ext. 1313.

METALS CONGRESS HEARS SCIENTIST

Jack L. Christian, staff scientist at GD/Convair Plant 71, was one of three San Diego men delivering papers at technical sessions of the American Society for Metals' Western Metal Congress Feb. 22-26 in Los Angeles.

Discount Offered On Coming Shows

A limited number of discount coupons available at employee services offices at Plants 1, 19 and 71, will afford GD/Convair theater-goers a $1 discount on seats for up-coming Circle Arts shows.

The coupons, good one night each for three scheduled plays, must be exchanged at Circle Arts box office at least 24 hours before the performance. They entitle employees to purchase $3 seats—rows G through M—for $2.

They may be used for "Bell, Book and Candle," March 10, with Rhonda Fleming; "Detective Story," March 24, with Ricardo Montalban; and "Under the Yum Yum Tree," April 7, starring Howard Duff.

Aeromodelers Defy Threat of Weather

CRA Aeromodelers braved threatening weather for their first mid-winter hand-launch glider championship Feb. 7 at Clairemont Mesa flying site.

Longest flight was turned in by Cezar Banks of GD/Electronics, winner of the adult section with 1 minute, 28.6 seconds. Jack Jensen of Dept. 6 was runner-up.

Larry Beezly topped the junior entries with Kyle Jensen (son of Jack), second. Winners were determined by totaling the contestants' three best flights.

Other prizes, all hobby merchandise, went to Howard Harvey, Gene Wright, both of Convair, and juniors James Banks, Billy and Tommy Harvey.

Salvage Schedule Will Alternate

Salvage yard schedule will continue on the present alternating Saturday schedule at Convair Plant 71 and Plant 1.

Employee sales hours at both the Kearny Mesa location and the salvage yard adjacent to Gate 5, Plant 1, are from 8 a.m. until noon. All GD employees are eligible to "shop" at the salvage yards upon presentation of ID cards. No children are permitted within the areas as a safety precaution.

Schedule for the next four weeks is:

Plant 71—March 6, March 20.
Plant 1—March 13, March 27.

PTA's Highest Honor Goes to Convair Man

A Convair Plant 1 man, who has devoted all of his spare time and outside interests to the activities of his three children, has received one of the highest honors for a "working" parent—an honorary life membership in the Parent-Teachers Association.

Victor J. Baros of Convair's analog computer facility, was honored by the Whittier Elementary School PTA for his work over the last seven years, since his oldest child, Dennis, now 11, was a toddler. His other children are Barbara, 10, and Susan, 6.

Bridge Club Voting Time Approaching

Election time is approaching for CRA Bridge Club. Nominations are sought at regular Friday sessions, 7:30 p.m. in Kearny Mesa Clubhouse.

Mr. and Mrs. Wells Ashley returned to the winners' circle Feb. 12 for North-South honors, with Mr. and Mrs. Vance Walsh in the winning East-West slot.

On Feb. 19 Mr. and Mrs. Howard McCollaugh won N-S, with Al Buggele and Jim Stephenson, E-W.

ASTRO JETS WIN LEAGUE TITLE

With a team series of 2,461, the Astro Jets, who bowl in the Astro Launchers League, won the "E" division men's team title in the City Bowling Tournament at La Mesa Bowl, Feb. 14. Team members: Ken Maloney, Bob Crouse, Don Holzer, Art Burns, and Walt White, all Dept. 567-1.

Recreation Facilities

In conformance with the reunion of Convair and Astronautics as the Convair division of General Dynamics, recreation facilities and activities are in the process of being consolidated.

"Many of the activities have never separated and others have either been joint or operated in cooperative fashion for a long time," J. K. Field, chief of employee services, explained.

"Between now and the end of March, when the fiscal year ends for both recreation organizations, we will work out an orderly consolidation aimed at maximum utilization of all facilities to best accommodate all division personnel."

Sports & Recreation

Bowlers Signing For '65 Tourney

All bowlers at Convair plants, Stromberg-Carlson, GD/Electronics are urged to sign as soon as possible for the annual CRA plant bowling championship tourney set for weekends of April 24-25 and May 1-2 at Pacific Recreation.

CRA trophies will go to winners of the following events: mixed teams, men's teams, mixed doubles, men's doubles, men's singles, women's singles, men's all events, and women's all events.

Entry fee is $2.50 per person for each event entered.

Entry forms are available at all alleys where CRA leagues are now in progress. CRA Bowling Co-commissioner Mike Brooks may be reached at ext. 410, Convair Plant 19, for information.

Players Will Enter Drama Tournament

Astro Players drama group will enter Stagecraft Productions' Original One-act Play Tournament (formerly sponsored by Old Globe Theatre) April 20 and 21 at San Diego Civic Theater.

They will present "Bon Voyage," with a cast of three men and three women.

Elimination tryouts for all tournament plays will be held March 8, 9 and 10 in Puppet Theater, Balboa Park.

The Astro Players show and two other one-act plays will be presented in the clubhouse at Kearny Mesa following the tournament, with dates to be announced later.

Helen Wood Wins Girls Links Tourney

Helen Wood of Stromberg-Carlson swept the field in the Feb. 13 links tourney of the GD Women's Golf Club to win the CRA individual trophy for low score.

Runner-up at the monthly event staged over Mission Bay golf course was Ilene Wilson. Emma Webb of GD/E came in third and Jo Ann Kranz, fourth. All received gift certificates.

Next tourney for the ladies will be March 13 at Cottonwood course.

VOCALIST ON CLUB DANCE PROGRAM

Vocalist Dobie Gray will perform his hit recording "The In Crowd" and other numbers at a Teen Club dance, 7:30 to 11:30 p.m., March 6 at the Kearny Mesa Clubhouse east of Plant 71. "Lee and the In-Laws" will provide music. Admission is $1 per person. Each Teen Club member is allowed one guest.

S-C FOLK PICNIC IN MOUNTAINS

A day of relaxation climaxed by a steak dinner was enjoyed by a group of Stromberg-Carlson Data Products people Feb. 21 at CRA's mountain resort, Pine Crest. Around 20, members of the staff of C. V. Shannon, plant manager and their wives, gathered for the outing.

Bowling Tourney Reset to May 15-16

Bowling tournament, originally set for Plant 71 and 19 keglers the weekend of April 17-18, has been rescheduled for the dates of May 15 and 16. It will be held at Clairemont Bowl. Registration is open until May 14.

Explorers to View Film on River Trip

A film presentation by Jim Baker will highlight the March 17 meeting of the Explorers Club, 7:30 p.m. in the Kearny Mesa Clubhouse.

Baker, of data control department, will narrate a film on his recent river trip in Mexico, entitled "Mal Paso Canyon on the Rio Grijalva." The movie was professionally produced.

This month's club outing will be a combination back pack and car camp in the Anza-Borrego area, March 20 and 21. Experienced hikers will trek from Dubber Spar near Jacumba to Bow River Ranger Station. Short excursion hikes based from the group's car camp are planned for novices.

Trip details and reservations are available from Commissioner R. G. Bowen, 278-9846 after 4:30 p.m. week days.

Mrs. Judith Copeland Wins Club's Contest

Seven extemporaneous minutes on "Animal, Vegetable or Human Being" won first prize in Serra Mesa Toastmistress Club's annual speech contest, held at King's Inn Feb. 20, for Mrs. Judith Copeland.

She received a trophy from Mrs. Irma Gilbert, winner of last year's contest, and will represent Serra Mesa in the area speech contest March 13. (Reservations for this dinner session are available from Scarlett Smith, area chairman, Plant 71, ext. 1313.)

Judges included Lt. Col. George W. Johnson, AFPRO at GD/Convair, and Dennis W. Suchecki, Dept. 130-3.

CRA Road Runners Plan Joint Meet

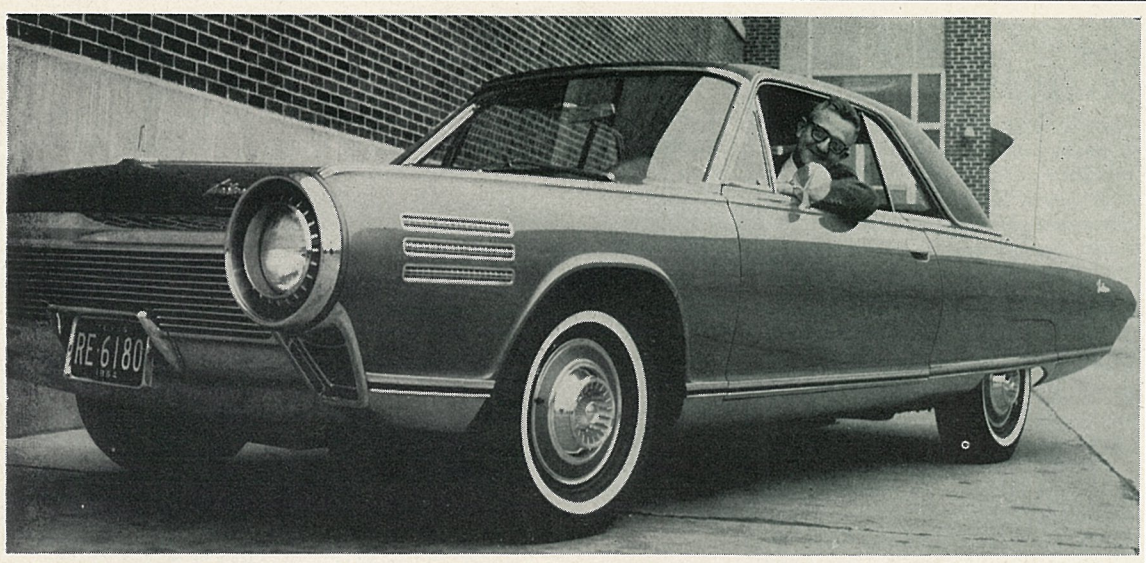
CRA Road Runners will rendezvous the weekend of March 19-21 with Douglas Jetliners trailer group to celebrate the Convair club's fifth anniversary.

The joint weekend campout is set for Doheny Village Park at Dana Point, about 70 miles north of San Diego on coast Hwy. 101. Commissioner Ralph East will be wagonmaster.

Next meeting will be March 18 at Gillespie Field Clubhouse.

FRAN HARVEY WINS SPEARFISHING

A catch of 19 fish won Fran Harvey of Astro Divers first place in the spearfishing competition Feb. 21 at Casa Cove, La Jolla, sponsored by San Diego Council of Skindiving Clubs.



TURBINE TESTER — Byron Kress, GD/Fort Worth project manager, is center of attention these days in Chrysler's experimental turbine-engine car. It's all his for three months.

Experimental Run

GD/Fort Worth Project Mgr. Picked For Jet Auto Driving

It sounds like a "jet," and it runs on almost anything, including your favorite highball.

It's Chrysler's experimental turbine-engine car, under a three-month loan to Byron Kress, Dept. 64 project manager at GD/Fort Worth.

Kress was selected from thousands of applicants for custody of the car. He can drive the car anywhere in the U.S. All he has to do is keep it presentable and full of gas—or rather, Diesel fuel.

"Actually," he said "it'll run on any ignitible liquid — from Chanel No. 5 to plain alcohol."

Wherever he goes in the turbine car—work, church, shopping center — Kress fields inevitable questions:

What's a turbine engine? How many miles a gallon? How fast can it go? How come they picked you to drive it? When is it going on the market?

A turbine engine, Kress explains, works much like a jet. Air enters the front of the car, passes through a compressor and regenerator, mixes with fuel and powers the turbines.

When exhaust spills out the down-slanted hatches in the rear it's not much hotter than a conventional automobile's.

"The turbine engine has 80 per cent fewer parts," Kress explains, "and this makes the car very quiet inside."

The car's interior is, in a word, plush. Instrument-wise, it's much like a conventional car, except for the tachometer, a device to measure engine revolutions per minute.

Although the car runs on virtually anything, Kress hasn't experimented. He uses high-grade Diesel oil or kerosene. Once at a service station he asked the attendant to "fill 'er up with kerosene."

The dubious attendant thought it over and concluded: "I can't. It's against the law."

The turbine car's top speed is reportedly 115 mph. And the company claims it can go from zero to 60 mph in 10 seconds flat.

Will turbine cars ever be placed on the regular market? Kress doesn't pretend to know. Right now, he theorizes, the cost would be prohibitively high.

Neither can Kress tell car buffs why he was chosen to drive the car. Only problem is having to give it up in two more months!

Sensors For Sea Buoys Under Study by ONR

Progress of GD/Convair's oceanography program was reviewed late last month by the Guidance Committee appointed by the Office of Naval Research to monitor the ONR contract under which Convair is developing ocean data station telemetering buoys for collection of scientific information at sea.

The committee of eminent oceanographers from the Office of Naval Research, Washington, D.C., scientific institutions, and companies throughout the United States, met with oceanography personnel in San Diego Feb. 18-19 for annual examination and discussion of future tasks.

Representing ONR were Dr. A. E. Maxwell, chief of the Geophysics Branch; F. D. Jennings, head oceanographer of ONR Geophysics Branch, chairman of the Guidance Committee; Dr. M. C. Sargent, ONR scientific liaison officer at Scripps Institution of Oceanography.

Presentations covered in detail the successful first test at sea of prototype buoy Bravo off the Florida coast last fall; specifications of all electronic equipment which eventually will go into the buoys for collection of oceanographic data; development of underwater oceanographic sensors to electronically measure salinity, temperature, pressure, dissolved oxygen, direction and velocity of currents, and chemical nutrients in sea water.

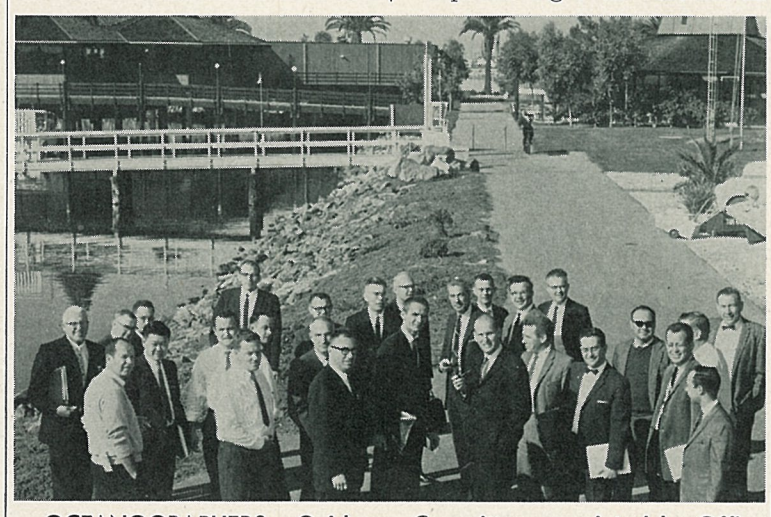
Among important future developments discussed was the design of meteorological sensors specifically for use aboard buoys at sea.

These sensors would gather information on wind direction and velocity, barometric pressure, relative humidity, precipitation, ambient air temperature, cloud cover, and amount of solar radiation.

"This increased emphasis on meteorology will materially strengthen our present capabilities of gathering environmental data at sea," commented Robert Devereux, Convair's oceanographic buoy project manager. "Also, we are taking a close look at the feasibility of measuring visibility, in other words, detecting fog at sea. This turns out to be a surprisingly challenging problem."

Convair's first prototype buoy, Bravo, will be moored in the Gulf Stream off Hollywood Beach, Fla., later this month for performance tests in the presence of strong currents. Next fall it will be moved north for further exposure to hurricanes. Tests in cold weather environment under icing conditions will follow, probably off the Massachusetts coast.

Fabrication is currently in progress on the second prototype buoy, Alpha, which will go into a testing program in the future off the California coast. It will be moored in the Pacific Missile Range, first in shallow water (100-ft. depth) off Point Mugu, and later in depths of 10,000 feet about 40 miles southwest of Point Arguello.



OCEANOGRAPHERS—Guidance Committee appointed by Office of Naval Research to monitor Convair's ocean data station telemetering buoy program is snapped at Islandia Hotel, San Diego, during annual review Feb. 18-19. Center (with portfolio) is F. D. Jennings, ONR Geophysics Branch, Washington, D.C., committee chairman. At his right (wearing glasses) is Robert Devereux, Convair's oceanographic buoy project manager.

Contractors, Suppliers Confer In 'Shirt Sleeves' Sessions

A unique "shirt sleeves" approach to contractor-supplier cost reduction programs was introduced last month by GD/Convair during a three-day San Diego conference which included top aerospace and government officials.

As conference host, Convair brought together 40 of its key suppliers on both existing and prospective programs in "Operation Bucksworth." Speakers included Division President J. R. Dempsey; G. E. Fouch, Deputy Assistant Secretary of Defense; Maj. Gen. Ben I. Funk, commander, AF Space Systems Division; and Bruce T. Lundin, associate director for development, NASA Lewis Research Center.

Subsequently, participants grouped themselves into four 12-man workshop teams, designed to seek joint prime and subcontractor methods of improving cost effectiveness; to produce guidelines for a subcontractor cost reduction program; and to encourage suppliers to spread the cost reduction "message" in turn to the firms with which they deal.

Results of the workshop sessions will be reviewed by a panel including representatives of Convair, the Air Force and NASA, and its recommendations will be given wide dissemination.

In his remarks, Dempsey noted the aerospace industry's shift in emphasis from the urgency of a decade ago toward new stress on reliability and cost control today. He dismissed the statistical approach to reliability, urging the conviction that "100 per cent is the only acceptable goal."

Fouch termed cost reduction "one of the few happy situations where everybody wins and no one loses," and urged large contractors to call upon their subcontractors and suppliers to join in aggressive attacks on costs.

'Flying Submersible' Described in Paper

A GD/Convair development project engineer, C. R. Tuttle, will present a paper at the Marine Systems and ASW Conference sponsored by the American Institute of Aeronautics and Astronautics and the U.S. Navy in San Diego next week.

Tuttle's presentation will deal with "The Concept and Design Requirements of the Flying Submersible," based on a study sponsored by the Airframe Design Division of the Bureau of Naval Weapons. He will deliver his address at the Advanced Marine Vehicles II session March 10 in El Cortez Hotel.

People Mobility

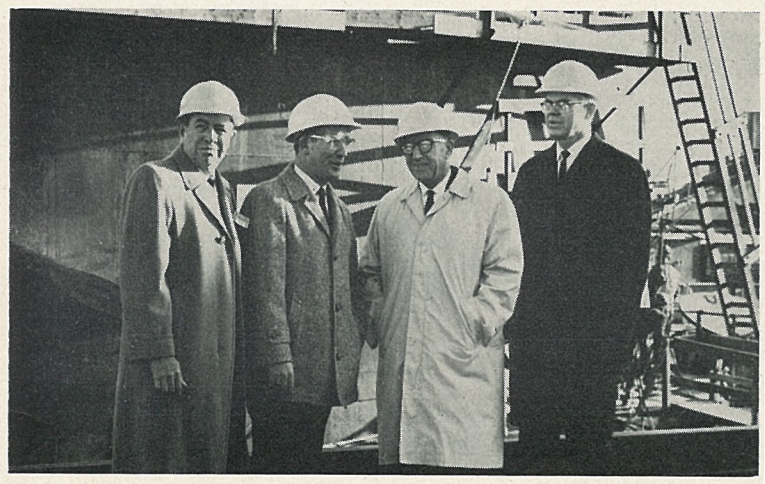
Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

DORRIS N. HALE (1963) from Convair to GD/Electronics-San Diego engineering; **JOHN F. PARKER** (1960) from Convair to industrial analyst, Electric Boat; **EMERY G. METZLER** (1964) from Convair to GD/Electronics-SD; **MICHAEL S. ODOM** (1963) from GD/Fort Worth to buyer, Electric Boat.

PAUL H. BUCKINGHAM (1961) from Convair to GD/Electronics-SD engineering; **ERNEST L. SMITH** (1960) from Convair to quality control, Electric Boat; **JACK E. GELLY** (1962) from Convair to GD/Electronics-Rochester; **DAVID M. BORKENHAGEN** (1963) from Convair to GD/Electronics-SD; **GEORGE R. RAWDON** (1941) from Fort Worth to industrial relations, Electric Boat (Quincy).

TED W. MARSHALL (1956) from Convair to GD/Electronics-SD; **CHARLES E. STOLL** (1955) from Convair to GD/Pomona; **STUART M. HIRSCHBERG** (1962) from Convair to Electric Boat; **VINCENT W. FINLEY** (1955) from Convair to GD/Electronics-SD; **KONRAD M. HALVORSRUD** (1958) from Convair to Electric Boat.



INSPECTION—Techniques were compared during recent conference of General Dynamics safety engineers at Electric Boat Division. From left, M. C. Val Dez, Convair Division, Harold Morgan, Electric Boat, Fred Temple, Fort Worth Division, B. W. Kahla, Corporate Headquarters, New York.

Technical Papers

CONVAIR

GIBSON—L. G. and L. A. HAGLOCH, both Dept. 962-3. "Development of Centaur Hydrogen System Fluid Connectors," Air Force Industry Conference, Huntsville, March 3-5.

HAAR—L., Dept. 596-0. "Equation of State Properties at High Chemical Temperatures," IEEE, ASQS, IES National Symposium on Reliability and Quality Control, Miami, Fla., Jan. 12-14.

KORTH—G. E., Dept. 564-1. "Oil Film Holding Force of Vibration Slip Plates," Visual Communication Congress, Society of Reproduction Engineers, Dallas.

LEMKE—Lester C., Dept. 528-1. "Temperature Predictions of the SATAR I: Analytic Techniques and Space Simulation Verification," AIAA, Los Angeles, March 1-3.

NEWSOM—B. D., Dept. 262-2. "Effect of Head Movements in Various Planes on Performance During Rotation," Aerospace Medical Association, New York.

NEWSOM—B. D., Dept. 262-2. "Observations on Subjects Exposed to Prolonged Rotation in a Space Station Simulator," NASA/Symposium on the Role of the Vestibular Organs in the Exploration of Space, Jan. 19-22, Pensacola, Fla.

PYNCHON—G. E., Dept. 504-1. "Crystal Growth and the Refractive Index of Strontium Oxide," IEEE, ASQC, IES National Symposium on Reliability and Quality Control, Jan. 12-14, Miami, Fla.

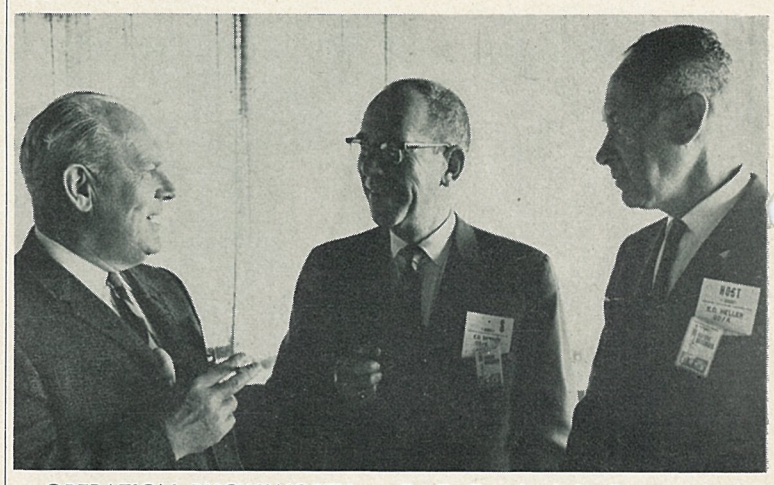
SHORT—L. L., B. D. NEWSOM and J. F. BRADY, all Dept. 262-2. "X-Radiation Effects on Vibration Tolerance of Rats," Aerospace Medical Association meeting, New York.

POMONA

CONTI—R. J., Dept. 6. "Thermal Compression Joining Technique for Electronic Devices and Interconnects," American Society for Metals meeting, Biltmore Hotel, Los Angeles, Feb. 25.

FRIEDLANDER—W. H., Dept. 24. "Management of Numerical Control," American Society of Tool and Manufacturing Engineers, Detroit, Feb. 22-25.

SERPA—J. R., Dept. 6. "Material Handling's Role in Contamination Control," Western Metal and Tool Exposition and Conference, Los Angeles, Feb. 22-26.



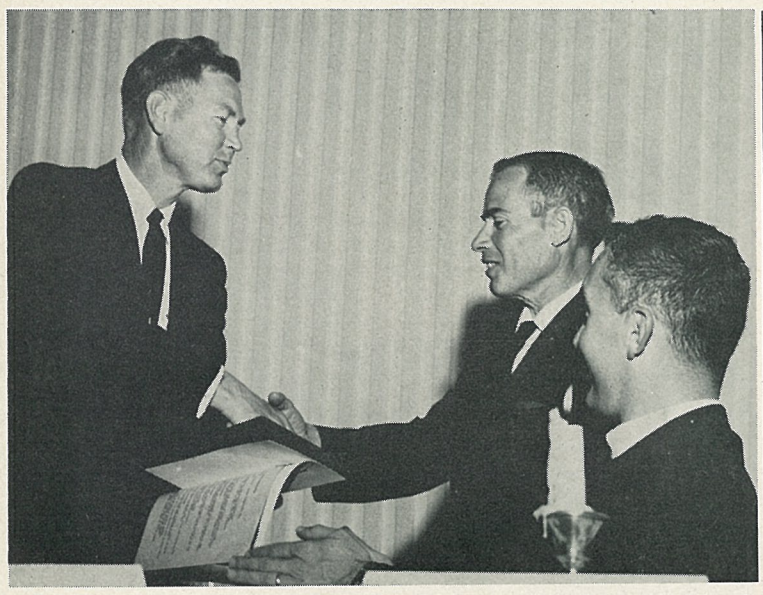
OPERATION BUCKSWORTH — G. E. Fouch, left, Deputy Assistant Secretary of Defense, and among key speakers at recent three-day cost reduction conference in San Diego for subcontractors, chats with E. D. Bryant, vice president - operations, and E. D. Heller, manager of cost reduction and value control, between meeting sessions.

GD

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 6 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, March 17, 1965



YEAR'S BEST—Jim Dempsey, left, presents 1964 President's Award for outstanding contribution to GD/Convair (Plants 71/19) cost improvement program to Mike Alianelli during Management Club meeting last week. Seated applauding at right is Don Slingsby, club president.

'Disneyland Night' Tickets Available

Tickets are still available for the bargain-rate "General Dynamics Night at Disneyland," March 27, when employees will have exclusive use of all park facilities (at no additional charge) from 8 p.m. to 1 a.m.

Ducats, at $3.75 per person (children under 3 are admitted free) can be purchased from Management Club Boosters or from CRA sales outlets.

Con-Trib Members Entitled to Seals

Contributions by Convair Employees' Con-Trib-Clubs to the San Diego County Society for Crippled Children entitle Convair employees at all plants to use Easter Seals without making further payment.

A total of $5,500 was approved by Con-Trib committees.



SIGNING—Roger Lewis, left, president of General Dynamics, and Dionisio Trigo, president of Caribbean Atlantic Airlines, Inc. (Caribair), have "pen in hand" at signing of order for Dart Convair modification kits.

More Airline Orders Signed

Contracts have been signed involving more than $11 million in converting Convair transports to propjet power.

First to be announced was with Caribbean Atlantic Airlines, Inc. (Caribair) which called for purchase of eight Dart Convair modification kits from General Dynamics Corporation and an option on four additional kits.

This was followed a few days later by an agreement with Hawaiian Airlines, Inc. to convert its six Convair 340 aircraft to Rolls-Royce Dart propjet power and purchase of an additional 340 with the Dart Convair modification installed.

Roger Lewis, General Dynamics president, signed both contracts, the first with Dionisio Trigo, president of Caribair, and the second with John H. Magoon Jr., president of Hawaiian Airlines.

Caribair's kits will be used to convert the airline's present fleet of seven 340s to propjet and to convert additional 340s to be acquired by the line.

Agreements call for Rolls-Royce Dart engines, Rotol 13-foot propellers, nacelles, gearboxes, accessories and other equipment.

Caribair will begin turbine-powered service in December, 1965, over its Caribbean routes. The airline will be fully equipped with turbine-powered aircraft by mid-1966.

"We have been looking since 1957 for a turbine-powered airplane, but until now haven't been able to find just what we felt would do the job," the Caribair president said.

"The Convair 340 with the Dart engine will provide increased reliability, greater speed, and more comfort for the passenger," he added.

The recent agreements are the first involving the Convair 340 transport. Two other airlines, Trans-Texas Airways, Inc., Houston, Texas, and Central Airlines, Fort Worth, Texas, previously announced plans to convert their Convair 240 transports to propjet power.

Prototype kits and initial modification of both 240 and 340 model aircraft are now under way at GD/Convair Division in San Diego.

Hawaiian Airlines will buy a Convair 340 which is being converted at San Diego to be used as a prototype of this series for FAA certification. The airline, which flies some four million miles a year over its Hawaiian Island routes, will be able to schedule all-turbine-powered service starting early in 1966.

President Magoon estimated that the use of the converted Convairs will reduce his direct operating costs by approximately $23 an hour per plane.

"A significant advantage," he commented, "is that the new Dart Convairs, with their greater speed, will result in some 3,000 less hours of flight time by our fleet."

Mike Alianelli Award Winner

A veteran of nearly 30 years with the Company and predecessor firms received the top cost improvement award of 1964 from President Jim Dempsey at a meeting of Plant 71/19 Management Club last week at El Cortez Hotel.

He is Michael "Mike" Alianelli, Dept. 780-1, who joined Consolidated Aircraft, later to become Convair Division of General Dynamics Corporation, in 1936.

Last year, Alianelli was credited with originating six approved Cost Improvement Proposals with total savings of $21,684.

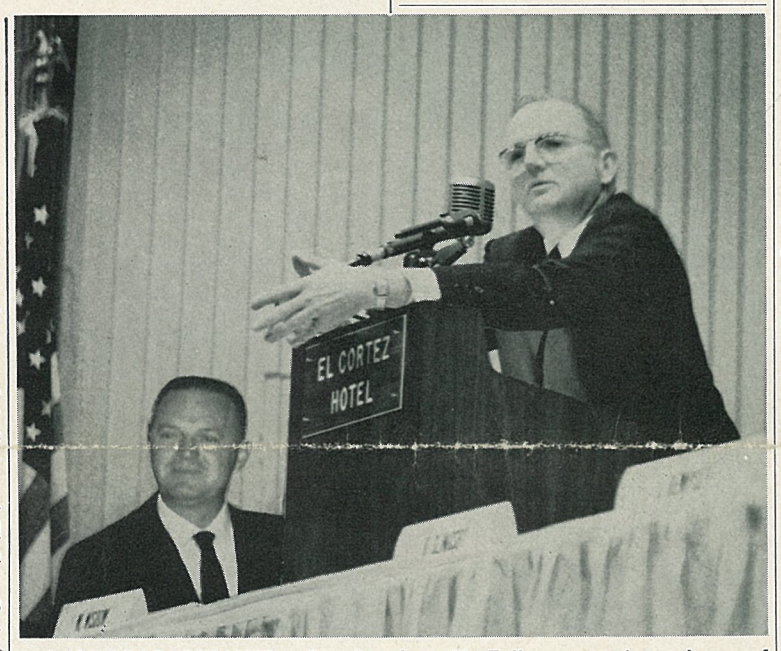
His proposals were selected as the year's outstanding contribution after consideration of their combined dollar savings, the total number of proposals submitted, total approved, and the ingenuity, originality and completeness of his ideas.

In one money-saving proposal, Alianelli established a visual aid to locate stenciling areas on binaries and welded modules. Another resulted in elimination of defective material.

His other ideas reduced lost time in supplying soldering equipment; improved the method of gold-plating circuit boards; reduced the number of on-hand test coupons; and found a faster method of drilling circuit boards.

Also honored at the meeting were four club members whose contributions to the cost improvement

(Continued on Page 2)



INSPIRING SPEAKER—Dr. Stephen H. Fuller, associate dean of Harvard School of Business, is shown addressing Management Club (Plant 71/19) last week in San Diego. At left is Milt Wisdom, GD/Convair director of industrial relations, who introduced the speaker and whose department sponsored program.

Volunteers For Peace Corps Sought, Interviews Planned

Peace Corps volunteers from among GD/Convair employees will be sought early next month, as the Corps concentrates its attention on the special skills now greatly in demand throughout the world.

Representatives of the Peace Corps will interview prospective volunteers at GD/Convair facilities during the week of April 5.

GD/Convair is cooperating with Peace Corps officials in this effort, which results from a shifting emphasis in Corps requirements. In the past, volunteers have been primarily college graduates; but the need for craftsmen and those with on-the-job experience has grown. Private industry has been tapped as a source of these urgently-needed abilities.

Employees interested in more Peace Corps information have been asked to submit the form on page 2 to their supervisors by 5 p.m., March 31. Arrangements will then be made for them to meet with a Peace Corps representative in-plant, to discuss the program further.

Volunteers with construction, mechanical, electrical, clerical and managerial experience, etc., are now sought to meet demands of Peace Corps projects in 46 countries of Asia, Africa and Latin America.

Candidates may be of any age 18 or over. A high school diploma is NOT required. Married couples are eligible but both must qualify (and the skills of a housewife are as urgently needed as other skills). Only limitation here is that candidates must not have dependents under the age of 18.

Volunteers accepted from among GD/Convair employees will be placed on leave of absence during their two-year Peace

(Continued on Page 2)



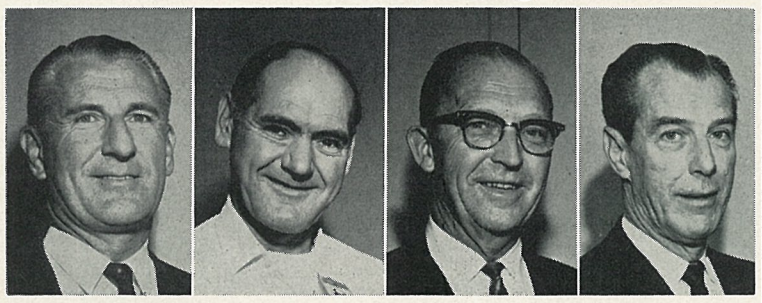
CORPS VETERANS — Among Peace Corps representatives who will interview prospective volunteers at GD/Convair are Ed Pautienus, left, and Dick Netolichy. Both recently returned from Corps assignments abroad. They served in West Africa, Pautienus as a teacher in Nigeria and Netolichy on a community building program in Senegal.



AIRLINE BUSINESS — Joe Famme, center, Convair vice president-aircraft programs, is shown with Frank Stevens and Forrest Brown of field operations at Plant 1. Photo was taken soon after announcement of Dart Convair sales involving Caribair and Hawaiian Airlines.

Log Book Entries

25-Year Men Recognized



From left: Thomas F. McAleer III, Dept. 830-0; James K. Harkins, Dept. 763-0; E. H. Wallrabenstein, Dept. 715-0; Willard E. Ladd, Dept. 403-3.



From left: J. T. Jackson, Dept. 6-53; N. R. Keough, Dept. 6-0; H. W. Dvorak, Dept. 6-22; C. G. Nixon, Dept. 48-32.



From left: Arthur G. Islas, Dept. 141-3; Arthur M. Easton, Dept. 759-0; Jack F. Ridley, Dept. 733-0; Frank B. Wozniak, Dept. 632-0.



Artie E. Lyerla, Dept. 48-78, left, Thomas G. Jones, Dept. 6-25.

In-Plant Training

ORIENTATION

NEW EMPLOYEES—Educational services staff, ext. 1931, Plant 71. Three hours; Monday, April 5, 8-11 a.m., Room 6, Bldg. 17, Plant 71.

PROFESSIONAL/TECHNICAL

DART ENGINE SYSTEMS — D. R. Maxion, ext. 491, Plant 1. Eighty hours; daily, 7-11 a.m., through April 9, Bldg. 14, Room 8, Plant 1.

PLASTIC MIXING (For Mixing Room Personnel)—Hal Rubin, ext. 1931, Plant 71. Limited enrollment. Ten hours; daily, 3:45-4:45 p.m., March 22-April 2. Bldg. 27 Lab & Bldg. 33 conference room, Plant 71.

PRODUCT IMPROVEMENT PROGRAM—Will Weidenfeller, ext. 1931, Plant 71. Limited enrollment. Four hours; daily, 7-8 a.m. Operations conference room, Bldg. 5, Plant 71. Group 4: March 22, 23, 24, 25. Group 5: March 29, 30, 31, April 1. Group 6: April 5, 6, 7, 8. Group 7: April 12, 13, 14, 15.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota, call ext. 1931. Plant 71. Weekly, 7 a.m.-3:45 p.m. Room 4, Bldg. 17, Plant 71.

FLOX SAFETY—Hal Rubin, ext. 1931, Plant 71. Four hours; Wed. and Thurs., March 31, April 1, 9-11 a.m. Administration Bldg., Sycamore Test Site.

AFTER HOURS TRAINING IN-PLANT

BOOLEAN ALGEBRA — (Engineering Application)—Jim Hanratty, ext. 1931, Plant 71. Twenty hours; Tuesday 5-7 p.m., March 2-May 4, Room 2, Bldg. 17, Plant 71.

NON-DESTRUCTIVE TESTING—D.C. Ryle, ext. 1767, Plant 71. Co-sponsored by Society for Non-Destructive Testing; Tuition, $35. Total, 72 hrs. Part I: Classroom, 48 hrs., Thursdays, 6:30-9:30 p.m., Plant 1, Bldg. 14 Aud., March 4-June 17. Part II: Workshop, 24 hrs., Tuesdays & Wednesdays, 6:30-9:30 p.m., Plant 1 shop area; May 11-June 3.

General Dynamics News

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Convair division editorial offices: Plant 71 (Kearny Mesa) Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Plant 1, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Service Emblems

CONVAIR

Service emblems due during the period March 1 through March 15.

Twenty-five-year: Dept. 6-25, T. G. Jones; Dept. 42-5, T. F. Allen; Dept. 100-0, C. F. Blair; Dept. 116-0, D. W. Kennedy; Dept. 119-0, V. C. Breit; Dept. 131-0, C. R. Yokley; Dept. 141-3, A. G. Islas; Dept. 400-1, A. M. Van Horne; Dept. 406-0, D. H. Sandin; Dept. 733-0, J. F. Ridley; Dept. 759-0, A. M. Easton; Dept. 833-1, John Walsh; Dept. 837-1, W. M. Flenniken.

Twenty-year: Dept. 6-53, E. K. Hamilton; Dept. 124-0, E. E. Yturralde; Dept. 141-0, J. L. Rinner Jr.

Fifteen-year: Dept. 115-0, I. V. Welty; Dept. 401-9, P. W. Greenhaw; Dept. 420-7, C. R. Martin; Dept. 597-1, C. L. Hagen; Dept. 665-7, Kenneth Koba; Dept. 780-2, R. M. Laird; Dept. 833-2, Helen M. Yturralde.

Ten-year: Dept. 6-54, C. F. Carpenter; Dept. 143-5, Alfred Lopez; Dept. 250, G. L. Draper, R. W. Hauer, E. C. Schutz; Dept. 452-0, John Kernoski; Dept. 454-0, D. W. Sandberg; Dept. 527-3, B. L. McDermott; Dept. 549-3, T. D. Ward; Dept. 652-1, P. B. Montgomery; Dept. 665-5, G. M. Carlson; Dept. 954-1, J. A. Lessing; Dept. 976-3, Willie Pitts.

ELECTRONICS

Ten-year: Dept. 4077, Blanche W. Nadeau.

STROMBERG-CARLSON

Fifteen-year: Dept. 8201, J. W. Hayes.
Ten-year: Dept. 8577, Maxine Campbell.

Invention Disclosures

CONVAIR

BISHOP—A. L. Jr., Dept. 451-0. Modification of Existing Toggle Clamp.

CHAPMAN—C. W., and K. E. WARD, both Dept. 6 (Plant 1). Airplane Design.

KREBS—S. T., Dept. 115 (Plant 1), Variable Angle End Mill.

LIEN—M. T., Dept. 558-5. Automatic Window Light Intensity Control.

STEPHENS—P. B., Dept. 583-2, and C. E. DRISKILL, Dept. 528-1. Low Heat Transfer Intermediate Bulkhead.

* * *

CORRECTION — Invention disclosure of a Harness Tie Cutter, listed in **GD/NEWS,** March 3, was incorrectly attributed. Inventor is Norman Smith, Dept. 146-4 (Plant 71).

Retirements

CONVAIR

BUTLER—Louis S., Dept. 171, Plant 1. Seniority date Aug. 19, 1947. Retired Feb. 26.

COBEN—Charles E., Dept. 462-0, Plant 71. Seniority date Aug. 24, 1953. Retired Feb. 26.

DUNN—Louis I., Dept. 27, Plant 1. Seniority date June 3, 1949. Retired Feb. 15.

LAMB—Morris E., Dept. 131, Plant 1. Seniority date Sept. 12, 1947. Retired Jan. 9.

PICKETT—Asa T., Dept. 3-1, Plant 1. Seniority date June 13, 1952. Retired Feb. 26.

POHLMAN—George A., Dept. 6-3, Plant 1. Seniority date Nov. 29, 1940. Retired Feb. 26.

SANCHEZ—Julian, Dept. 250-4, Plant 71. Seniority date March 15, 1957. Retired Feb. 26.

Births

CONVAIR

BOGGIONI—Daughter, Donna Marie, 6 lbs., 5 oz., born March 1 to Mr. and Mrs. Emilio Boggioni, Dept. 143-3.

RILEY—Daughter, Lisa Louise, 6 lbs., born Feb. 15 to Mr. and Mrs. Robert D. Riley, Dept. 250-5.

STEPHENS—Son, Paul, 8 lbs., 10 oz., born Jan. 28 to Mr. and Mrs. G. P. Stephens, Dept. 547-4.

TERRES—Son, Brian Wayne, 4 lbs., 9 oz., born Feb. 3 to Mr. and Mrs. Waynard B. Terres, Dept. 564-1.

Mike Alianelli Award Winner

(Continued from Page 1)

program earned them recognition as "Men of the Month" for November, December, January and February.

Honored for November was W. L. McDougal, Dept. 761-0, with two approved proposals; one produced a new handling tool design for Centaur adapter installation, the other, with $2,500 in savings, eliminated a checking operation.

For December, the club cited M. R. Ussery, Dept. 124-0, who produced substantial savings by recommending a change from daily to weekly reporting of time charges for various tasks in his department.

R. B. Kalonquin, Dept. 957-0, with three proposals and savings totalling over $2,700, earned January honors. His ideas improved record keeping on repairable items, changed a report requirement and instituted positive action in parts identification.

Savings of $5,465 on a change to the spares routing procedure earned the February "Man of the Month" award for E. O. Shattuck, Dept. 837-1.

Mgt. Club Meet Rescheduled

Date of Convair Plant 1 Management Club's "Awards Night" meeting has been changed to next Monday, March 22. It originally had been scheduled for the following Wednesday.

Mug of the Year will be disclosed. This honor goes to the Management Club member who has contributed most significantly to company, club, or civic activities.

Vice President J. H. Famme will present the 1964 President's Award to the top cost reduction submitter. Candidates include one woman and five men.

MacSave-it trophy winners, top monthly CIP submitters, will be announced for October, November, December, January, and February.

Also on the program will be a featured speaker.

Members will gather in the Convair main cafeteria on Pacific Hwy. for a 5:30 p.m. social hour, followed by an Italian dinner at 6.

Tickets, 50c each, now are on sale at all regular Plant 1 outlets.

Vehicular Entrance At Plant 19 Changed

Vehicular entrance to Convair Plant 19 was relocated early this month to Gate 23 on Pacific Hwy., adjacent to the pedestrian overpass. It is now open 24 hours a day, seven days a week.

Also, the south entrance, Gate 20, on the inter-plant road connecting Plant 1 and Plant 19, has been reopened. Vehicles may use this gate from 7 a.m. to 5 p.m., Mondays through Fridays.

Gate 28 on Pacific Hwy. has been closed to all traffic.

Personals

CONVAIR

My deepest gratitude to Convair friends, particularly those in Data Processing, Dept. 27, for the many acts of kindness and sympathy, flowers, and contributions to the Cancer Fund in memory of my wife, Grace.

Jess Brown, Dept. 27.

* * *

Your kindness and sympathy at the death of my husband, Frank L. Cornish, Dept. 147-0 (Plant 71), is more deeply appreciated than any words of thanks can ever express.

Mrs. Evelyn Cornish and family.

* * *

Our sincere thanks for the very lovely flowers provided at the death of Ida P. Hay, Dept. 833-1 (Plant 71).

R. W. Hay and family.

* * *

We wish to express our deep appreciation to Convair Plant 1 friends for the expressions of sympathy and the beautiful flowers received when we lost our wife and mother.

R. J. Loesch and children, Dept. 6.

* * *

We wish to express our grateful acknowledgement and sincere thanks for the expressions of sympathy received at the death of Peter Holley, Dept. 123-0 (Plant 71).

Mr. and Mrs. Chuck Woodward.

Deaths

CONVAIR

STILES—Ann H., Dept. 521-6. Died March 7. Survived by husband, Robert L., three children, Juliann, Laurie, and Robert L. Jr.

Convair Identification Badges Changing to New Color Scheme

Introduction of a "new look" in identification badges for GD/Convair employees is well under way this week.

Plant 1 employees are exchanging former disk-type badges and ID cards for new, laminated photo badges, and employees at Plants 71 and 19 get a new color scheme for photo badges already in use there.

Earlier this month (March 8) work began in scheduling Plant 1 employees for identification photos. New badges are being issued as photos and lamination are completed.

Approximately 2 by 3 inches in size, the badges carry the employee's picture and his employee number, topped by a yellow area bearing the words "General Dynamics/Convair."

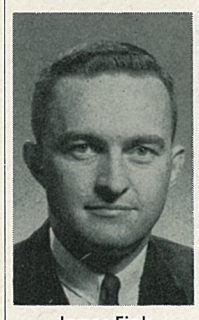
A circular colored area on the badge's lower left corner indicates level of security clearance. At the lower right corner of the badge is a plastic "button." For hourly employees this "button" is yellow, green or white according to shift; for salaried personnel the button is blue.

Customer personnel wear similar badges with red "buttons" lettered "AF," "NASA," etc., in black.

At Plants 71 and 19, Sycamore and Point Loma, issuance of yellow adhesive decals to be applied externally over the upper portion of present badges (to effect the change in division name) was begun Monday (March 15).

Jim Fink Honored By Chapter of AIAA

James E. Fink, who directed development of Convair's Charger aircraft as program manager, has been named Engineer of the Year by the San Diego Chapter of the American Institute of Aeronautics and Astronautics.



James Fink

Announcement of the honor was made during National Engineers Week at the Careers Day conference Feb. 27. Fink participated in engineering panel discussions at the conference which drew more than 800 junior and senior high school students.

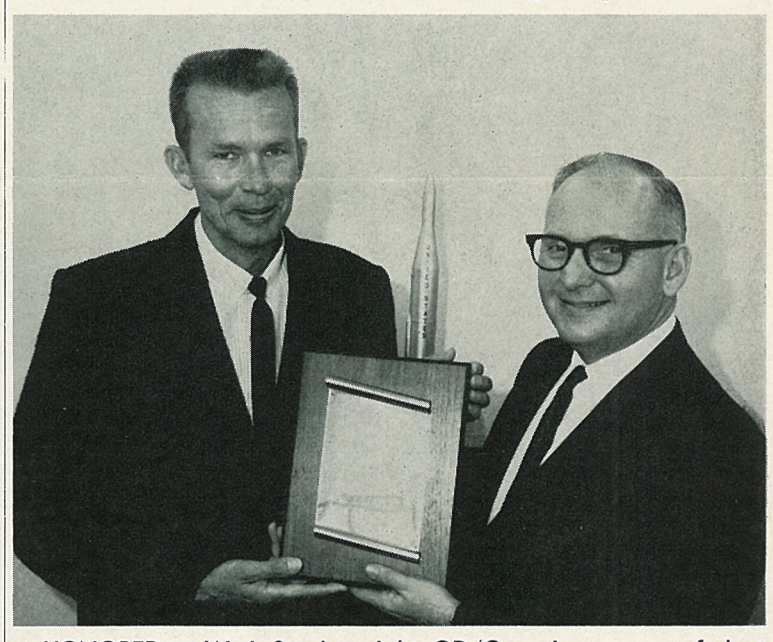
W. J. Stanley Honored As 'Engineer of Year'

W. J. Stanley, GD/Convair manager of plant engineering, has been named "Plant Engineer of the Year" by San Diego chapter, American Institute of Plant Engineers (AIPE).

The award was presented at a recent meeting of the group, at which Stanley was cited for his service to AIPE both locally and nationally, to the community, and to the plant engineering profession in general.

Stanley last year was first president of the local AIPE chapter, and is now active in national affairs of the organization as Region 6 vice president, responsible for eight western states.

Another GD/Convair man, R. D. Leonard, is vice president of the San Diego chapter.



HONORED — W. J. Stanley, right, GD/Convair manager of plant engineering, was recently presented plaque naming him "Plant Engineer of the Year" by San Diego chapter, American Institute of Plant Engineers. R. N. Foster, chapter president, left, made presentation.

Volunteers For Peace Corps Sought, Interviews Planned

(Continued from Page 1)

Corps tour of duty.

Corpsmen receive expenses at their duty station, and on completion of assignment will be given a readjustment allowance of $1,800 (before taxes).

Employees interested in the program will receive application forms during their in-plant meeting with Corps representatives (all of whom are Peace Corps "alumni"). If selected, applicants will receive three to four months' training in the U.S. prior to taking up an overseas assignment.

Special arrangements will be made to accommodate GD/Convair personnel at Vandenberg AFB and Cape Kennedy. Like San Diego employees, they should forward the accompanying coupon through their supervisors.

REQUEST FOR PEACE CORPS INTERVIEW

Name.....

Dept. & Empl. No.....

Plant..... Shift.....

Give completed request to your supervisor before 5 p.m., March 31.

Ancient (1916) Patent Discloses Early Version of 'Variable Wing'

General Dynamics is more of a pioneer in the variable wing concept than one might think.

It's general knowledge, of course, that GD/Fort Worth is turning out the F-111, the nation's first production variable wing fighter, at the Texas plant.

What's not generally known is that E. F. Gallaudet was thinking firmly in terms of a "variable wing" airplane as far back as 1916.

Gallaudet was an aviation pioneer who started his own aviation company, which later merged with Consolidated (forerunner of General Dynamics).



"OLD" IDEA — Oct. 3, 1916 patent of E. F. Gallaudet's "variable wing" airplane is displayed by Chuck Dawson of GD/Fort Worth's patent office.

His patent for a variable wing aircraft was brought to life by Chuck Dawson of GD/FW's patent office during a "routine legal search."

Of course, Gallaudet's patent (No. 1,200,098 dated Oct. 3, 1916) wasn't for a sweep-wing plane as we know it.

"He was slightly less ambitious," Dawson said. "All he wanted was movable wing tips for checking a plane's slipping movement.

"But in those days engineers were primarily interested in getting the plane in the air and controlling it, not speed."

The modern concept, of course, is for a wing that sweeps from almost straight out, back to a virtual V-position, providing efficiency both at low and very high speeds.

But Gallaudet's thinking—in the relative infancy of aviation—was perhaps every bit as bold and imaginative as the current concept.

To put it in his own words: "The movable wing tips were so connected that the tip on one side can be extended and that on the other side simultaneously withdrawn to produce differential changes both in the area and the center of pressure of the wings on opposite sides of the machine."

Simply stated, the tips would swing in opposite directions, one outwardly and forwardly, and the other rearwardly and inwardly.

Just the thing to right a "flying machine that commences to sideslip."

History has considerable to say about Gallaudet, a Yale professor turned aviation tycoon. Many of his early designs, including a number of racers and a twin-motored hydroplane, gained renown.

Navy Pilots Briefed on F-111 As GD/FW Group Goes on Cruise

A 10-man contingent from GD/Fort Worth "swapped" information with the U. S. Navy recently during a two-day cruise on the USS Shangri-La.

The GD/FW crew got a first-hand look—particularly at aerial operations—of an attack aircraft carrier in action.

Navy pilots were given an up-to-the-minute briefing on the F-111, which is slated for fleet service soon.

In addition, Shangri-La personnel saw a demonstration of GD/FW's latest fire-fighting equipment conducted by Phil Cummins, security officer.

Making the cruise were: Cummins; Charles McCauley, assistant to F-111 program director; Jack Haynes, manager of manufacturing control; Howard McIntire, assistant to F-111 program director; Robert Andrews, manager F-111 flight tests; Dan Brew, superintendent of manufacturing control; Norman Brown, AFPRO; John Ferris, AFPRO; Ken Morris, AFPRO; and Maurice Spinks, president of ALSCO Manufacturing Co.

"These people saw carrier aviation from every angle, with emphasis on their particular areas of work," said a Navy spokesman. "Much of their time was spent observing launches and recoveries from the island structure of the carrier."

Navy personnel were shown first-flight films of the F-111. And a scale model of the variable-wing fighter was used to explain its upcoming role with the Navy.

"When Shangri-La returned to port, the visitors had a better idea of what the Navy needs in the F-111, and Shangri-La personnel knew more about the new aircraft and GD/FW," the Navy official said.

Cummins demonstrated GD/FW's new survival suit and Fire Cat, the division's futuristic approach to remote-control fire fighting.

The survival suit consists of rows of bladders. These bladders are covered with fire-repellant material and are sewn over the entire uniform about two inches apart.

In an emergency, the airman simply triggers a pocket-sized container of pressurized foam at point near the belt line. Each series of bladders inflates accordion-like, pushing the bladders together and forming a virtual one-inch coat of foam over the entire uniform.

The change takes place within 18 seconds, and the foam adds only about eight ounces to the total weight of the uniform!

Cummins pointed out that aircraft ground crews could wear the survival suit with comfort while on regular duty. In case of fire, they could go to work almost at once.

"The Navy people were quite impressed with our equipment," Cummins said.



NAVY'S DAY — Capt. R. L. Werner, skipper of aircraft Carrier Shangri-La, gets F-111 briefing from Howard McIntire, right, assistant to F-111 program director, and Phil Cummins, security officer, during recent two-day tour.

Technical Papers

CONVAIR

ARMSTRONG—R. C., Dept. 262-0. "Attenuation of Sunusoidal Acceleration Stresses by Use of Positive Pressure Breathing," 36th Annual Scientific Meeting, Aerospace Medical Association, New York.

DEMPSEY—R. P., Dept. 490-2. "Safety Measures Practiced by Industry for High Energy Rate Forming of Metals," Manufacturing Section, Governor's Industrial Safety Conference, Los Angeles, Calif., Feb. 5.

NEWSON—B. D., Dept. 375-1. "Adaptation to Prolonged Exposures in the Revolving Space Station Simulator," and "The Effect of Positive Pressure Breathing on the Vibration Tolerance of the Mouse," 36th Annual Scientific Meeting, Aerospace Medical Association, New York.

REARDON—G. V., Dept. 558-5. "Considerations in Selecting Plastics for Electrical Insulation in Space Applications," ANTEC, Society of Plastics Engineers, March 1.

STEVENS—J. D., Dept. 142-4. "Test Equipment Calibration Control and Performance History System for Compliance with MIL-C-45662A and NPC 200-2."

WIBERG—D. M., Dept. 556-7. "Applications of Non-Interacting Modes to Spatial Effects in Reactor Kinetics," Nuclear Science and Engineering Oak Ridge National Laboratory.

* * *

Papers presented at ASME National Conference of Aviation Space Division, Los Angeles, Calif., March 14-18:

ARMSTRONG—R. C., G. L. DRAKE, and J. R. BURNETT, "Development Status of a Prototype Integrated Regenerable Life Support System."

GARROCQ—C. A., "Optimum Solidity."

LOMEN—D. O., "Sloshing in Parabolic Containers Due to Vertical Excitation." LOMEN and L. L. FONTENOT, "On the Vibration of Parabolic Membranes."

STODDARD—John E. Abstract, "Diffusion Bonding Titanium Alloys and Superalloys."

VALANIS—K. C. and J. R. LLOYD, "A Matric Method for the Analysis of a Stiffened Sheet Structure Loaded Beyond the Elastic Limit."

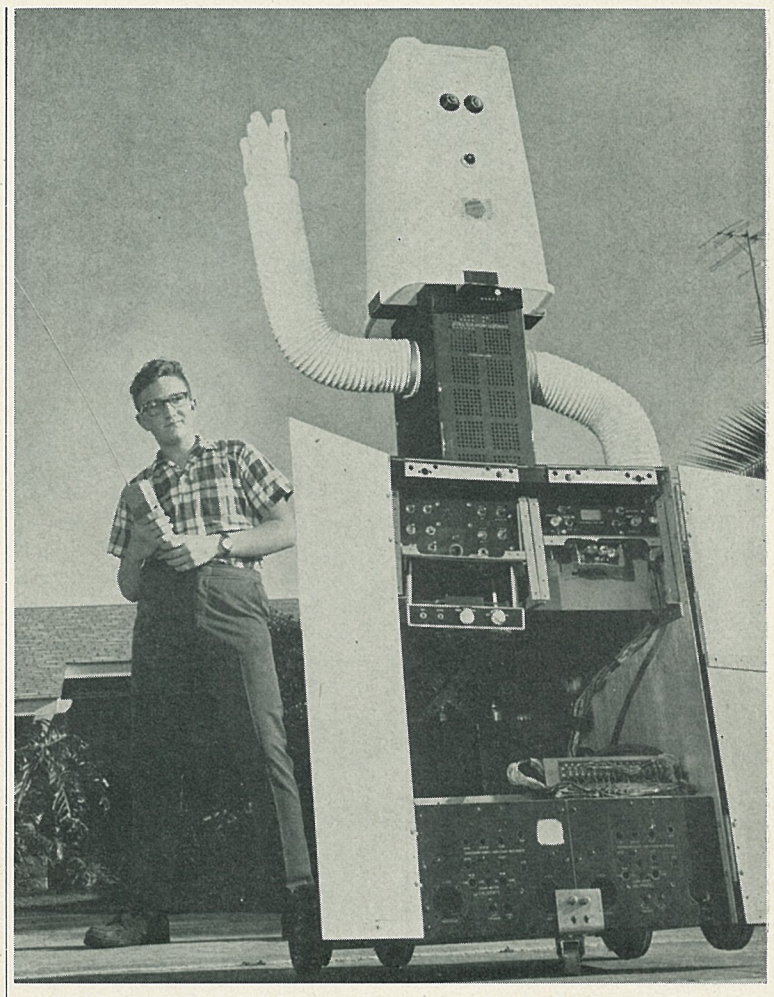
WILSON—P. E. and E. E. SPIER, "Nonlinear Bending of a Stress Corrosion Specimen."

ELECTRONICS-ROCHESTER

RUBEGA—R. A. "Design Parameters for Active Target Classification," 22nd U. S. Navy Symposium on Underwater Acoustics, Austin, Texas.

TUCK—W. P. "Data Transmission Equipment for Industrial Telemetering and Control," IEEE meeting, New York, Feb. 3.

WALKER—W. F. "Linear Modeling of Long Underwater Acoustic Paths," submitted to Journal of Acoustical Society of America.



HELLO THERE — With young master, Mark Dorian at controls, "Tobor" the robot gives hearty wave while displaying sophisticated electronic "innards" which 13-year-old Mark assembled from surplus materials.

'Human' Quality

Robot, Designed by GD Son, 13, Subject to 'Frustrations'

There's a definite human quality about "Tobor," though his head looks like an upside-down wastebasket, his physique is somewhat boxy, and the "muscles of his brawny arms" are not only "as strong as iron bands"—they really are!

Tobor is "robot" spelled backward. And he's the creation of 13-year-old Mark Dorian Jr., whose father, M. L. Dorian, works in the space sciences section at GD/Convair's Kearny Mesa plant.

Mark, an eighth-grader at Hale Junior High School, designed and built Tobor from surplus electronic equipment, as a science project. Like those of many other General Dynamics sons and daughters, his exhibit will be displayed April 1-4 at the Greater San Diego Science Fair.

Tobor, at six feet, is taller than Mark, but through his complex electronic circuitry the robot is completely subservient to his young master's commands. Mark is the pusher-of-buttons to direct Tobor from as much as a block distant by means of a radio control transmitter like those used with model planes and boats.

With Mark conveniently out of sight (but close enough to overhear the conversation) it's easy to develop a rapport with Tobor.

"What's your name?" you ask, and he rasps, "My name is Tobor," (with the help of a tiny concealed tape recorder). "Raise your right arm (or extend your left)," you command. Tobor does it, drawing power from the two auto batteries deep in his chest. "Turn right—turn left," and again the fabulous "tin man" follows instructions.

But the final proof of Tobor's sophistication is seen when he faces problems beyond his abilities. Like his flesh-and-blood counterparts, Tobor is subject to frustration.

"Jump up and down," you say. Or, "Quote me the theory of relativity." Tobor is silent and motionless.

Then, alas, his will crumbles. His eyes spin wildly. His nose flashes red. A great tumult, as of a dozen bells and bike horns, is heard.

Tobor—or rather Mark—has pushed the "panic" button!





REWARDED — Carey D. Wirt presents special "space cards" award to Bob J. Simon, one of GD/Convair Dept. 576-3-5 employees at Vandenberg AFB who have won Craftsmanship award for four consecutive months. Pictured during ceremony are Wirt, left, Lt. Col. Floyd G. Nixon, AFSC Test Site office; Jack O'Ran, AFQA office at VAFB; Donald L. Fagan, GD/Convair operations director; E. A. Millar, manager of operations support; Simon.

Convair Dept. at Vandenberg Scores Fourth Win in a Row

VANDENBERG AFB—By winning January honors in the Craftsmanship phase of GD/Convair's Do Good Work program, Dept. 576-3-5 (material services) here has scored both a "first" and a "fourth."

The award marked the first occasion in the program's history that a department had won the coveted Craftsmen of the Month honor for more than three consecutive months. For Dept. 576-3-5, it marked the fourth in a string of wins spanning October through January.

The department is one of two (both at VAFB) whose employees have received Craftsmanship "Silver C" pins for three-time winners. Thus, the No. 4 win called for something even more "special," provided by the program control board in the form of twin decks of Convair's unique space cards.

The custom-designed playing cards were packaged in a presentation case labeled "Craftsmanship Award."

Cards were presented to each employee individually by Carey D. Wirt, chief of material services. Dignitaries attending the ceremony included Lt. Col. Floyd G. Nixon, Air Force Systems Command Test Site office; Jack O'Ran, Air Force Quality Assurance office; Donald L. Fagan, Convair operations director; and E. A. Millar, operations support manager.

'Hall of Fame' Names Bossart

Karel J. Bossart, GD/Convair technical director, recognized as the "father" of the Atlas intercontinental ballistic missile and the Atlas space launch vehicle, is among the first aerospace pioneers elected to the new International Hall of Fame in San Diego.

Also, Reuben H. Fleet, founder of Consolidated Aircraft Corp. (now GD/Convair), is among honorees.

Portraits of the initial group of 19 famous aviators, designers, and astronauts chosen will be placed on special display in the Hall of Fame building to be constructed in Balboa Park. Douglas M. Jones of La Jolla, Calif. has been commissioned to do the oil paintings.

Display panels containing the portrait, personal items, aerospace model, and history of accomplishment of each person will be unveiled at an invitational dinner held in connection with Space Fair 1965 tomorrow (March 18). They will be on display in the Community Concourse Exhibit Hall through March 21. Later they will be placed in the Aerospace Museum at Balboa Park pending erection of the permanent Hall of Fame building.

Toastmasters 3745 Solicits Members

Convair Toastmasters Club 3745 is launching a drive for additional members to make the benefits of Toastmasters available to all interested men.

Ultimate goal is to expand membership to 40. Once this goal is reached, a nucleus of key people will form a new club.

Presently, Convair Toastmasters meet every Wednesday evening at 4:15 p.m. in Kearny Mesa Clubhouse, Plant 71. Light refreshments are served at no cost to members. Four dinner meetings are held during the year.

All Convair men interested in joining or forming a new club, are urged to contact Les Dassoff at ext. 4211; Hal Story, ext. 4264; or Dale Nash, ext. 4264, all Plant 71.

Educator to Talk On Mgt. Problems

Clark Claskey will discuss problems of middle management March 18, 8 p.m. in Roosevelt Junior High School auditorium, in a meeting sponsored by San Diego chapter, American Society for Training and Development (ASTD).

Claskey is program director, Bureau of Industrial Relations at University of Michigan's Graduate School of Business Administration.

Tickets for the program are $1 per person, available from ASTD members or by contacting GD/Convair's Wayne Turner, Plant 1 ext. 491, or Vince Martin, Plant 71 ext. 1471. At the door, ticket price is $1.50.

Crack F-106 Squadron Will Represent ADC

A crack F-106 squadron, the 329th at George AFB, Calif., will represent the Air Defense Command in Air Force competition for the 1964 Daedalian Weapon Systems Maintenance Effectiveness and Efficiency Award.

The award was established by the Daedalian Foundation — an organization founded by World War I pilots—to promote maximum maintenance effectiveness and efficiency.

The 329th, commanded by Lt. Col. Harry C. Hancock, was selected late last year as the top AF air defense interceptor unit. Troy S. Vaughan is assigned to the F-106 unit as Convair's field service representative.



Salvage Schedule Listed For Plants

Salvage yard schedule at Convair Plant 71 and Plant 1 salvage yards for the next four weeks is:

Plant 71—March 20, April 3.
Plant 1—March 27, April 10.

CAREER CONFERENCE TO ATTRACT 2,000

Half a dozen General Dynamics men will participate in the Trade and Technical Careers Conference which will draw over 2,000 high school students to Balboa Park Conference Bldg. this Saturday (March 20), 9 a.m. until noon.

The conference is held annually to present the wide range of vocations open to young people in the San Diego area. Panel discussions, exhibits, and demonstrations will deal with job opportunities in at least 20 trades, ranging from aircraft and aerospace, electronics and sound, woodworking, graphic arts, to cosmetology and dressmaking.

Jack Croft, chief of Convair educational services, will chair the panel on aircraft and aerospace. J. P. Hamm of Convair design engineering is a panel member. C. F. McMenamy, Convair senior group engineer, will head the graphic arts panel. Louis F. Kruse, GD/Electronics machine shop foreman, and Fred DeGreef of Convair Dept. 401 are on the machine and tooling trades panel.

Wayne Turner of Convair educational services is overall chairman of panel discussions.

Telephonic Research Topic at Club Meet

A demonstration and talk on the artificial larynx developed by the Pacific Telephone Co. will highlight the March 19 meeting of the Junior Science group.

O. E. Wiedmann, Pacific Telephone staff engineer, will describe the research and development program which resulted in the advanced equipment.

The general organization and physics of speech production will be discussed dealing in some detail with mechanical and electronic means of synthesizing and recording for computer purposes. In conclusion, Wiedmann will project into future developments.

Meeting will be in the Kearny Mesa Clubhouse at Plant 71 at 7:30 p.m.

FUNDS CONTINUE TERRIER TARTAR

GD/Pomona has been awarded $43,850,662 by the Navy for continued production of Terrier and Tartar guided missiles.

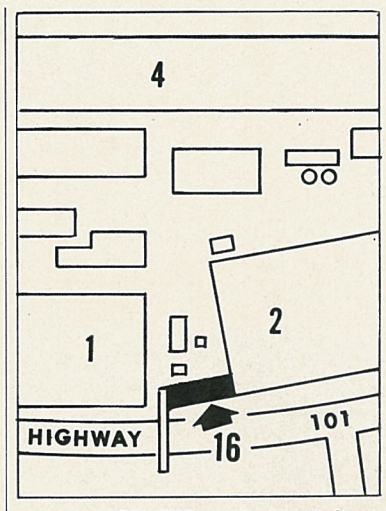
The award was part of a $79,600,000 contract of which $35,800,000 had previously been given to the Pomona division as part of a long lead time amendment. Earlier this year the Navy announced that Terrier and Tartar would remain in production at Pomona during development of a new Standard Missile. The division was awarded a $13,050,000 contract for 1965 fiscal year funding of the missile which eventually will replace Terrier and Tartar, using current shipboard control and launching systems with minor modifications.

F-111 Flies Mach 1.2 On First Sonic Hop

F-111 No. 1 "handled beautifully" on its first supersonic flight, while airplane No. 2 successfully completed its maiden mission recently at Fort Worth.

Flights are preparatory to extensive testing at Edwards AFB, Calif.

Veteran Pilot Dick Johnson said he was very impressed with the plane's performance. The F-111 reached Mach 1.2 during the one-hour, 22-minute flight. No. 2, flown by Pilot Val Prahl, was up 65 minutes for its first flight.



NEW CENTER — Industrial relations functions at Plant 1 (employee services, security, safety etc.) are being centralized in Bldg. 16. Sketch map shows relative location between Bldgs. 1 and 2.

VAdm. Stroop Slated To Address ASQC

General Dynamics men will take key roles in a seminar sponsored by San Diego section, American Society for Quality Control (ASQC), April 3 at Town and Country Hotel.

Among principal speakers will be VAdm P. D. Stroop, commander, Naval Air Force Pacific; Dr. Robert R. Gilruth, director, NASA Manned Spacecraft Center, Houston, and a ranking representative of AF Space Systems Division.

Adm. Stroop will be introduced by P. I. Harr, GD/Convair director of reliability control, while D. E. Moore, chief of quality assurance for AFPR at Plant 71 will introduce the SSD representative.

K. M. Boekamp of GD/Convair will present a paper, "Nondestructive Testing — Space Vehicles." L. C. Stuckey, president of the local ASQC section, will also appear on the program, while L. S. Franklin and G. K. Huff of Convair have handled seminar publicity.

Sixteen Sports Cars Drive Against Time

Sixteen cars drove against time over a 50-minute run in CRA Sports Car Club's March 3 fun rally which took drivers and navigators over a circuitous route from Ocean Beach to University City in North Clairemont.

A. Mason (Plant 71) and J. Mason finished with only a 20-second error in timing. Bill Stemple of Dept. 6 and Wally Killeaney (Dept. 42) were just one minute off. In third place were J. Coffey (Dept. 6) and C. Coffey, 1-min., 45-sec. error.

MEN'S VOLLEYBALL TEAMS FORMING

Men's volleyball teams wishing to participate in a Convair shop league are urged to contact Pete Beyrer, ext. 1111, Plant 71. If enough teams from Convair, GD/E, and Stromberg-Carlson signify interest, a plant league will be formed, otherwise teams will be entered in IRC competition. Rosters may list eight team members.

VETERAN WINS PRONE SHOOTING

Harold Schnaubelt, Dept. 978-3, Plant 71, a veteran of 25 years of competitive shooting, won an all-prone rifle match at CRA's Gillespie Field Range, March 7. David Farrelly Jr., whose father is in Dept. 592-1, placed second.

Safety Shoes Sold In Matter of Hours

Safety shoes went like hot cakes on the first day of Convair safety department's half-price clearance sale last week, Jack Garrison, Convair chief safety engineer, reported.

Line-ups formed early at both Plants 71 and 1 safety cribs to buy out practically the entire stock of 250 pairs before the day was out. In fact the 100 pairs offered at Plant 1 were sold in three hours.

Classes in Ceramics Now Open to All

Ceramic classes, held two days each week at the Kearny Mesa Clubhouse (former ARA headquarters), now are open to all Convair, GD/Electronics, and Stromberg-Carlson employees and their dependents. Retired personnel also are urged to take advantage of the instruction.

Daytime classes on Tuesdays and Thursdays, 10 a.m. to 2 p.m., are under the direction of Katy Rymer. Night classes are held the same days, 7-11 p.m., with the professional assistance of Anne Pettit.

Softball Workouts Set For Next Week

Workouts for Convair's entry in the City Softball League will be held next Tuesday and Thursday nights (March 23 and 25) at 7 p.m. on the CRA (formerly ARA) lighted field near Plant 71, under direction of Bob Lange, team manager.

All employees, and their dependents, of Convair, GD/E, S-C are welcome to try for a position on the team. However, dependents must be covered by dependent insurance. Only company employees and their dependents are eligible to play on varsity teams.

Pierce to Lecture On Anthropology

Ben F. Pierce, anthropologist in GD/Convair's life sciences department, will present a 10-lecture course in general anthropology, beginning March 29 at La Jolla High School.

The course, sponsored by Northwest Adult High School, will meet Mondays, 7 to 9:30 p.m., and feature descriptive and illustrative material on the people of Hawaii, Tahiti, Samoa, Polynesia, etc. Registration will be conducted at the first class session.

General Atomic Man Wins Glider Event

Walt Mooney of General Atomic was the only General Dynamics glider pilot in the winners' circle at the 19th annual Pacific Coast Mid-Winter Soaring Championships Feb. 27-28 at Torrey Pines.

Mooney garnered the Ryan trophy for the duration event. He kept his Schweizer 1-26 aloft 8 hours and 15 minutes during the two-day contest.

Overall point-holder and winner of the John J. Montgomery trophy was Pete Peterson of Los Angeles.

Water Skiers Plan Kickoff Meeting

CRA Water Ski Club will open a new season with a kickoff meeting, 7:30 p.m. March 22 in the Clubhouse, Kearny Mesa.

All GD employees and families have been invited.

The club owns two boats, moored at Perez Cove Marina, which are used for skiing from Mission Bay's Crown Point Shores on weekends and after working hours, May through October.

Further information is available from Sam Cohen, 273-8167, after working hours.

Fast Pitch, Slow Pitch Programs Organizing

Fast pitch and slow pitch softball programs are being organized for all Convair, GD/E, and Stromberg-Carlson employees.

A day-shift managers' meeting is set for Monday (March 22) at 7 p.m. in the TV lounge, Kearny Mesa Clubhouse, Plant 71. All managers who can not attend, and all swing-shift team managers, are asked to call Pete Beyrer, ext. 1111, Plant 71.

OLD GOLD PIECE WILL BE RAFFLED

CRA Coin Club at Plant 1 will hold its regular meeting tomorrow night (March 18) at 7:30 p.m. in the Convair cafeteria, Pacific Hwy. An 1887-S gold piece, valued at $35, and a 1961 proof set will be raffled. Auction, door prize, and refreshments are planned.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for Convair, GD/Electronics, Stromberg-Carlson employees at all San Diego locations. For information call CRA Headquarters, Kearny Mesa, Plant 71, ext. 1111).

★ ★ ★

AEROMODELERS — Flying sessions Saturday and Sunday, 8 a.m.-1 p.m., Clairemont Mesa flying site.

BADMINTON — Weekly play Monday evenings, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Entries close April 10 for annual CRA plant championship tourney, April 24-25, May 1-2. Forms at Pacific Rec, Kearny Mesa Clubhouse, Plant 1 employee services.

CAMERA CLUB — Meeting March 21, 7:30 p.m., Photo Arts Bldg., Balboa Park.

COIN CLUB — Plant 1 meeting tomorrow (March 18), Convair cafeteria, Pacific Hwy., 7:30 p.m.

EXPLORERS — Meeting today (March 17), 7:30 p.m., Kearny Mesa Clubhouse. Special showing of "Mal Paso Canyon," river expedition film.

FENCING — Workouts and instruction Fridays, 7-10 p.m., YWCA, 10th and C Sts.

FISHING CLUB — Plant 1 meeting tonight (March 17), Gillespie Field Clubhouse. Potluck, 6:30 p.m.; business session, 7:30. All Plant 71 fishing club members invited.

GARDEN CLUB—Annual Rose Show April 11, Floral Association Bldg., Balboa Park.

GUN CLUB—Open ATA registered trapshoot March 28, Gillespie Field Range.

JUNIOR RIFLEERS—Meeting tonight (March 17), 7 p.m., Kearny Mesa Clubhouse. Club shoot March 20, 8 a.m., Gillespie Field Range.

JUNIOR SCIENCE — Meeting March 19, 7:30 p.m., Kearny Mesa Clubhouse.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot March 28, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Plant 1 group meets tomorrow night (March 18), 8 p.m., Harbor Drive club headquarters.

RIDING CLUB — CRA Fun Show March 21, Convair horse ring, Kearny Mesa recreation area. Starts at 9 a.m.

ROAD RUNNERS — Meeting March 18, 7:30 p.m., Gillespie Field Clubhouse. Anniversary outing with Douglas Jetliners at Doheny Village Park, Dana Point, this weekend, March 19-21.

SNOW SKI CLUB — Meeting April 3, 7:30 p.m., Kearny Mesa Clubhouse. Warren Miller films, "Design for Skiing," and "Ski Tricks."

SOFTBALL — Fast-pitch and slow-pitch shop leagues now forming. Day-shift managers meeting March 22, 7 p.m., TV lounge, Kearny Mesa Clubhouse. Swing-shift managers call Pete Beyrer, ext. 1111, Plant 71. Workouts for City League entry March 23 and 25, 7 p.m., CRA field, Kearny Mesa recreation area.

SWIMMING — Free family swim night March 20, 7-9 p.m., Mission Beach Plunge. Tickets at Kearny Mesa Clubhouse and all employee services outlets.

TEEN CLUB —"Couples only" dance March 20, Kearny Mesa Clubhouse, 7:30-11:30 p.m. $1 per person.

TENNIS — Call CRA Headquarters, Kearny Mesa Clubhouse, Plant 71, ext. 1111, for information on novice lessons.

VOLLEYBALL — Shop league now forming. Call Pete Beyrer, ext. 1111, Plant 71.

CRA Explorers Map Bold Expedition

CRA Explorers will sally forth from Jacumba at 8 a.m., March 20, for a two-day car camp and pack-pack expedition into Carrizo Canyon and Gorge.

The car camp, for the take-it-easy crowd, is designed for leisurely enjoyment, with a few short excursion hikes. Bolder participants will make a rigorous overnight trek from Bow Willow Ranger Station to Dubber Spur.

Both events will conclude by about 2 p.m., Sunday, at which time the group will return to San Diego. GD hikers planning to join the pack adventure may call Joe Quijada, 284-0883, for briefing.

CRA Reorganization Set For April 5

Reorganization of the Convair Recreation Association will be outlined at the April 5 meeting of all activity commissioners, J. K. Field, chief of employee services, said.

Commissioners of combined CRA and ARA activities will be announced and new officers elected for the consolidated Convair Recreation Association Council.

A complete roster of all Convair sports and recreational activities and their commissioners will be carried in **GD/NEWS** after appointments have been firmed.

Sculpture Program For Year Outlined

Year's activities were outlined last month when CRA Sculpture Club rallied members at a buffet dinner to launch coming programs.

Planning includes such features as movies, guest artists, and even field trips.

Employees or dependents interested in sculpture or pottery work are welcome to visit the group's fully-equipped workshop in the Clubhouse, Kearny Mesa, any Monday, 7:30 p.m. Detailed information on club activities is available from Sid Gutherz, Plant 1, ext. 1923, or Betty Vidmar, Plant 71, ext. 1163.

All Convair, S-C, GD/E, and retired people are invited to participate.

Horsemen Invited To Show on Mesa

A gymkhana fun show will be open to all General Dynamics horsemen (and women and children) this Sunday (March 21) at the Convair horse ring, Kearny Mesa recreation area adjacent to Plant 71.

At least 100 horses are expected to be put through their paces in the CRA-sponsored Western event. There will be classes open to both adults and children, said Bud Donahoo, show manager. Activities start at 9 a.m.

Admission to the grandstand is free and the CRA snack bar in the recreation area will be open for lunches. Spectators are invited.

Winners Established In Bridge Club Play

Mitzi Rustad and Billie Evans were North-South winners and Mr. and Mrs. Ralph Emerson won East-West in Convair Bridge Club's Master Point play March 3.

Winners on the Feb. 26 club play night were Mr. and Mrs. Willard Dellegar (N-S), and Jessie Morris and Ceil McCullough (E-W).

Club election of officers was scheduled for March 12.

Tight Battles In Basketball

Three teams ended first half of CRA slow-break basketball shop league tied with four wins, one loss. Tangled in first-place were GD/Electronics, Wind Tunnel, and Material.

Convair Material and Wind Tunnel went on into second-round play as the teams to beat. Both won their first two tilts in Feb. 25 and March 4 play.

★ ★ ★

In Plant 71 (formerly Astro) basketball league play the I.B.J.O.B. team won by a hair's-breadth after skinning by Flight Control in a 38-37 win in overtime March 2.

Nine teams now are competing in a double elimination. I.B.J.O.B., Comets, and Centaur were still in the winners' bracket as of last week.

Pros to Teach Hoop Course

A series of classes on the fine points of basketball for players, and coaches, will be sponsored this summer under CRA auspices if enough men register.

Plans call for a two to four-month course with weekly meetings, probably Saturday afternoons. Fon Johnson of CALEWO and John Cunningham of the University of San Diego, both pro basketball players, will instruct.

Purpose is to develop a varsity team for entry in City League tourney, and, to help members of in-plant teams improve their play.

Registration may be made now with Joyce Oviatt, ext. 1111, Plant 71.

Knutson, Schindler Win Master Class

J. S. Knutson with 296 and Al Schindler with 295 won master class of a CRA Pistol Club .22 Police Course match fired Feb. 28 at San Diego Police Pistol Range.

Other winners in this contest were: expert class, Angrim Carlson, 275, Bill Dittmann, 269; sharpshooter class, Lyle Ewing, 258, Byron Clapper, 222.

On Feb. 14, winners in a similar shoot were: master class, Schindler, 299, Warren Ranscht, 294; expert, Carlson, 277, Bill Worthington, 253; sharpshooter, Ewing, 251, Clapper, 247; marksman, Ernie Kampmann, 206.

Results of a Center Fire match found Schindler first with 291, followed by Ranscht, 296; Bill Geopfarth, 265; Carl Jensen, 257.

Teen Club Will Hold 'Date Night' Saturday

A double-feature affair is in store for Convair teen-agers at the Teen Club's "date night" dance this Saturday (March 20) in Kearny Mesa Clubhouse.

Special attractions will be the vocal group, "Cannibal and the Headhunters," and the popular dance band, "Premiers." Both groups will present their latest hit recordings.

Each Teen Club member must be accompanied by a date of the opposite sex to the "couples only" dance, said Commissioner John Hess.

Price is $1 per person with good school clothes as appropriate dress. Hours are from 7:30 to 11:30 p.m.

Tropical Fish Club Changes Meeting Date

Convair Tropical Fish Club has changed its regular meeting night to the second Monday of each month, Room C, Kearny Mesa Clubhouse at Plant 71.

Workshops will be held four nights a week. Dick Rowe, ext. 2105 or 2193 at Plant 71, should be contacted to arrange sessions.

All Convair, S-C, and GD/E tropical fish fanciers are welcome to take part in club activities.

Sports & Recreation

65 Shooters Vie In ATA Event

Sixty-five shooters vied in CRA Gun Club's monthly ATA registered trapshoot Feb. 28 at Gillespie Field Range.

Over 12,500 targets were thrown for the 11 squads competing in the 16-yard event and nine squads in handicap.

Everett Kimball of Anaheim, with a 97 out of a possible 100, topped Class A in 16-yd. competition. Class B winner was Joe Howes of Ramona, 95; Class C, Carl Haynes of San Diego, 94; Class D, U. Bagsby, also San Diego, 96. All received thermos outing kits.

Irma Allison of Pacoima won a gun case for high lady's score, 80.

Individual prizes went to top gunsmen in five yardage groups in the handicap: 18-yd., Ann Howes, 75; 19-yd., Don Jones of San Diego, 92; 20-yd., Nate Tate, San Diego, 92; 21-yd., W. Grimsby of Descanso, 84, in his first try at a registered shoot; combined 22-27-yd., Haynes, 88; and doubles, Bagsby, 80.

This month's open ATA registered shoot will be March 28.

Ticket Sales Outlets Set

All sales of tickets and other items involving payment at time of purchase now will be handled at CRA ticket sales office, Kearny Mesa Clubhouse, Plant 71, from 9 a.m. to 5 p.m.

Discount and free tickets will be available to Convair people at the clubhouse; employee services counter in Bldg. 8 at Plant 71; and at employee services, Plants 1 and 19.

These include reduced-price offers to Circle Arts Theatre, Cinema 21, Disneyland, sportfishing excursions, and free tickets to monthly swim and roller skating nights.

Tickets for "GD Night at Disneyland" will be on sale at both Plant 71 employee services and Kearny Mesa Clubhouse until the March 27 date. Tickets are $3.75 per person. These must be purchased in advance at Plant 71.

Anglers to Journey To Salton Sea Area

A field trip for all General Dynamics anglers in the San Diego area has been set for the weekend of April 9-11 to Salton Sea.

CRA Fishing Club members and all other GD fishermen will gather at the desert location and set up their own base of operations in any way they wish—campgrounds or motels.

Anglers will pool their catches for the Saturday night fish fry. Beverages will be furnished by the club.

An information sheet with directions and details will be mailed to all Fishing Club members.

GD/E and S-C Wives Will Bus to L.A.

A chartered bus trip to Los Angeles and Hollywood tomorrow (March 18) supplants the usual monthly luncheon meeting for GD/Electronics and Stromberg-Carlson wives.

The bus leaves the May Co. parking lot at 7:30 a.m. It will take the ladies to Farmer's Market, Universal City Studio, Grauman's Chinese Theater, and to Knott's Berry Farm en route home. Transportation and admission charges are $6.50 per person.

For information contact Mrs. Max L. Tucker, 465-9581, or Mrs. Ronald B. Williams, 460-1866.

Vacation Fashions Show Set April 28

Vacation fashions for men and women will be displayed at the annual IRC fashion show April 28 at Del Webb's Ocean-House.

A fictional trip to Hawaii, with correct attire for every occasion, will transport spectators to the island "paradise."

Dessert, coffee, door prizes, entertainment will extend 7 to 9:30 p.m., all at $1.50 per person.

Tickets are on sale at Kearny Mesa Clubhouse, Plant 71; employee services outlets at Convair Plants 1 and 19, GD/E, and Stromberg-Carlson Plants 1 and 2.

Early Bowling Entries Urged

Entries close April 10 for the 24th annual CRA plant bowling championship to be held the weekends of April 24-25 and May 1-2.

Co-commissioners Jim Hayman and Mike Brooks urge all keglers intending to compete to sign as soon as possible.

Entry forms are at Kearny Mesa Clubhouse, Plant 71; employee services, Bldg 32, Plant 1; and Pacific Recreation bowling alley where the tournament will be staged.

Fees of $2.50 per person for each event, plus $1 optional for all competing for all-events purse, must be paid at time of entry.

The yearly keg competition is open to all Convair people at Plants 1, 19, 71, GD/Electronics and Stromberg-Carlson employees, and resident associate contractors.

Hayman and Brooks may be reached on their home phones for further information. Hayman's number is 466-1262; Brooks, 469-8793.

Jaunt to Mammoth Climaxes Ski Year

Formal season for Plant 71 skiers will be climaxed the weekend of April 3 when CRA Snow Ski Club travels to Mammoth for its annual club races.

Package price, including dorm lodging, transportation, shuttle service in Mammoth, and two "all-you-can-eat" breakfasts is $25 for club members, $26 for non-members. Travel is via lavishly equipped chartered bus.

Accommodations have been arranged in the heart of the village, with shuttle transportation to the slopes where races for novice, intermediate and advanced skiers will be held.

Reservations will be accepted through March 24 by Bernie Paul, 277-7162, and are limited to the first 36 persons to "pay up."

Umpires Summoned For Softball Play

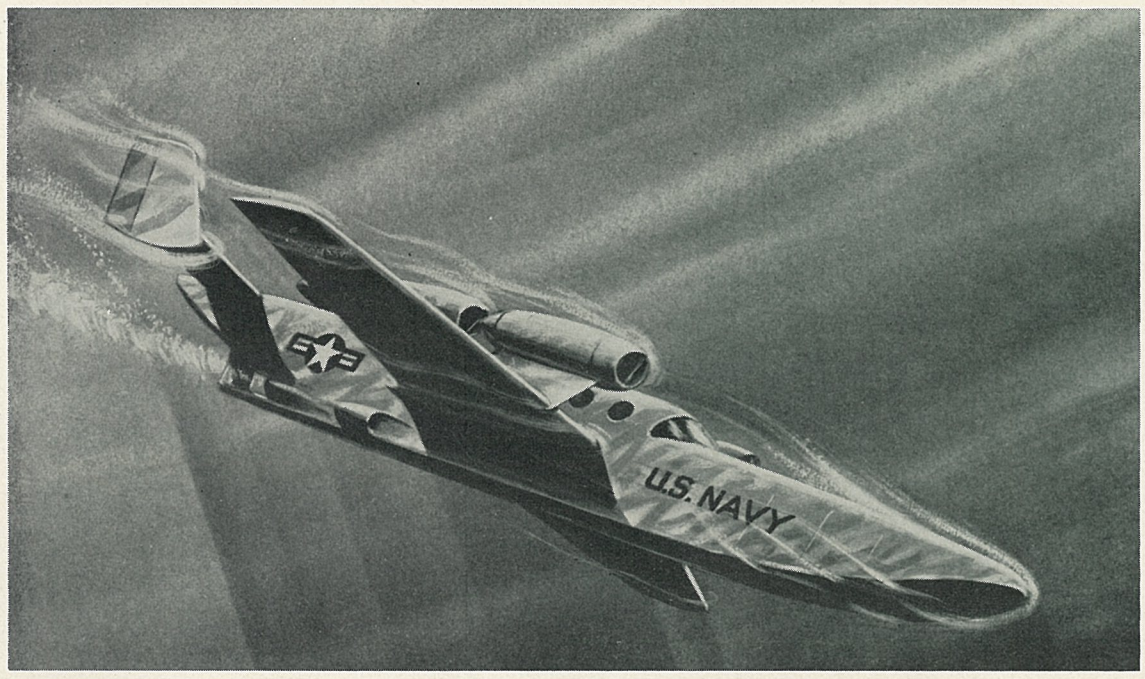
A call is out for umpires for Convair plant softball play.

If enough men express interest in "earning while learning," an umpires' training school will start soon.

Interested men may list their names with Pete Beyrer, CRA Headquarters, Plant 71, ext. 1111.

RIDERS GATHER FOR BUFFET MEAL

Horsemen of CRA Riding Club (Plant 1) made an all-day ride through the back country Feb. 14. The 18 riders gathered at the Poway home of Roy Sims, a former member of the Convair club's color guard, for a buffet lunch served by the ladies while junior members took over the horses for a short ride of their own.



DOUBLE ELEMENT—Artist's conception of submersible seaplane is based on feasibility study results obtained by GD/Convair.

Plane That Can Both Fly and 'Swim' Under Study in U. S. Navy Project

A concept of a Navy seaplane which could fly in the air as an aircraft and submerge to cruise under water as a submarine was described last week by a General Dynamics engineer.

The GD study shows that the submersible seaplane is "feasible, practical and well within the state of the art."

The Convair division of General Dynamics Corporation, with assistance from Electric Boat Division, has been investigating feasibility of a flying submersible under a six-month, $36,000 study contract awarded by the U. S. Navy Bureau of Naval Weapons.

The unique submersible seaplane, called Sub-Plane in the U. S. Navy study project, is a vehicle that would approach its target area with the speed of a water-based aircraft, then dive underwater to pursue its target with the stealth of a submarine.

C. R. Tuttle, Convair development project engineer, discussed the Sub-Plane concept at a classified session of the Marine Systems and ASW Conference sponsored by the American Institute of Aeronautics and Astronautics and the U. S. Navy.

Missions, dimensions, weights and systems details of Sub-Plane are classified, but the general configuration and design requirements that follow have been approved for release.

The preliminary Sub-Plane configuration recommended by Convair has a seaplane-style hull and conventional wing and tail.

It has three jet engines, two mounted on pylons above the wing and the third centered on top of the hull aft of the wing. Prior to submerging, the engines would be sealed.

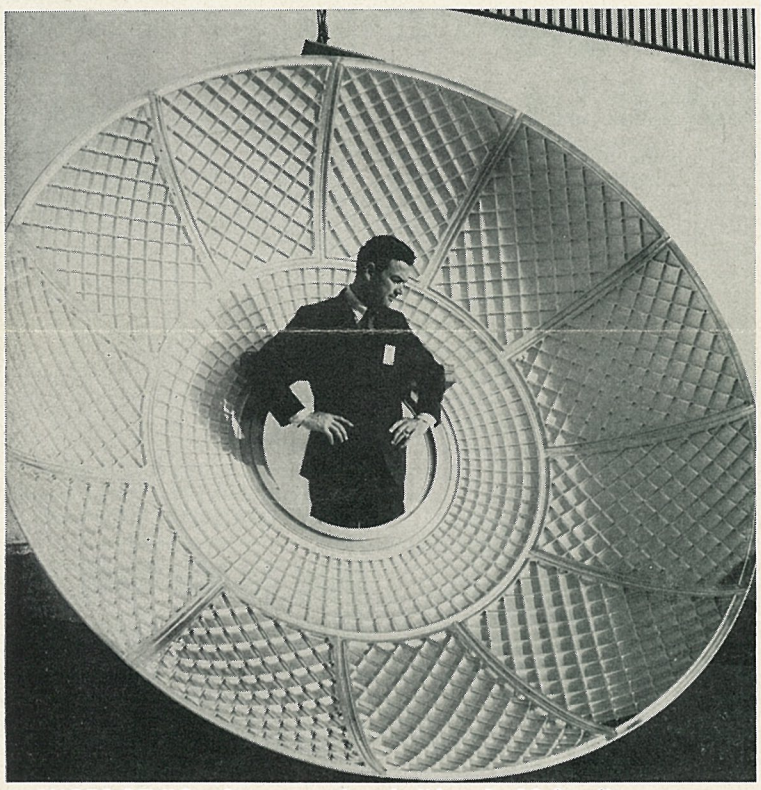
The wing engines would be used for take-off only. Flight cruise thrust would be furnished by the hull engine. A retractable hydro-ski would aid take-off.

Sub-Plane is required to have a flight radius of 300 to 500 nautical miles at speeds between 150 and 225 knots. Its underwater range was set at 50 nautical miles at five knots and 75-foot depth. Payload was set at 500 to 1,500 pounds.

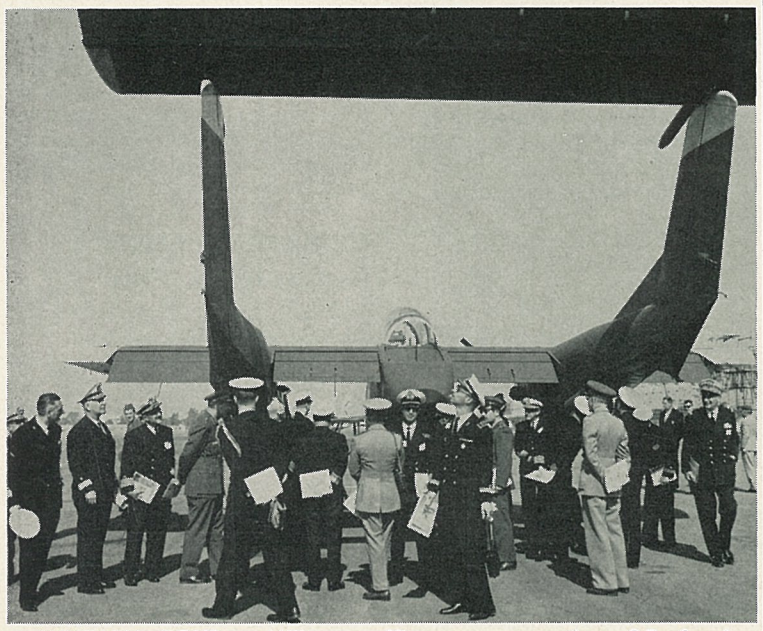
Tuttle discussed problems that will require detailed investigation to reconcile two different types of vehicles, the airplane and the submarine. These included "buoyancy control, stability and control in two media and on the interface, and emergency escape and survival in two media."

He recommended that if "controlled sinking" is to be realized, "a high density aircraft must be used and all excess volume must be flooded."

Structural components that would be flooded on both sides, such as wing, tail, and hull, preferably would be made of high-density material, such as stainless steel or titanium. Titanium or fiberglass would be considered as the materials for the pressure shell containing the two-man crew.



PHOTOGENIC—Space station bulkhead, 10-ft. diameter, constructed by new aluminum forming technique developed by GD/Convair, is inspected by D. J. Gorham, Convair manufacturing development engineer. Each section starts as separate one-inch thick flat plate; then machined by automatic, numerically-controlled equipment. Pockets of cross-hatchings are filled with plastic and sections formed by use of explosives to concave shape.



MILITARY TOUR — Military officers representing 35 foreign countries, all attached to Washington, D.C., legations, view Convair's Charger at San Diego, new multi-mission counter-insurgency aircraft, during briefing on GD division programs late last month while on annual tour of United States. In a letter to J. H. Famme, GD/Convair vice president of aircraft programs, Rear Adm. W. H. Price, 11th Naval District Commandant, expressed appreciation for the well-managed briefing at GD.

1,200 Hear Program On 'Do Good Work'

A presentation of GD/Convair's Zero Defects-type "Do Good Work" program was given at Norton AFB March 8 as Air Force Systems Command opened a command-wide Zero Defects effort.

W. E. Magnuson, Sam Petcher and V. G. Heger explained the program to some 1,200 Ballistic Systems Division personnel. Keynote speaker was Brig. Gen. H. J. Sands Jr., BSD commander, assisted by Col. R. E. Soper, vice commander.

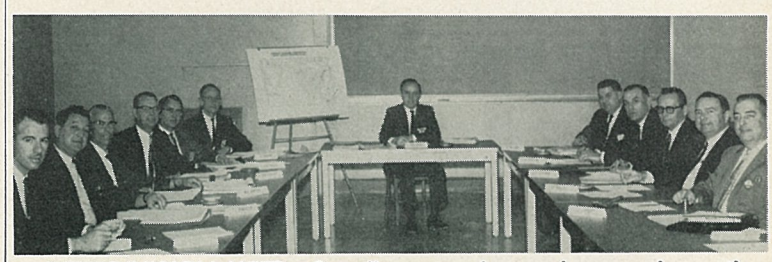
Corporate-Wide, Over-Night Materials Search Foreseen

A three-year plan for dynamic improvement in the quality of purchased material was developed by the General Dynamics supplier quality control working committee in a meeting last month at Pomona. Chairman of the Corporate committee is Ray B. Davis, manager of purchased material quality at GD/Pomona.

Immediate goals include standardization of supplier surveying and source inspection operating procedures to enable improved coordination of these activities on a Corporate basis. Interchange of work, in the supplier quality control field of activity, has increased sharply during the last six months.

A look into the future was provided by Chairman Davis, when computer-to-computer interrogation (division-to-division) would be possible. This would enable overnight Corporate-wide search for supplier approval or disapproval information and actual supplier performance data. Scheduling of supplier surveys and source inspection assignments would be performed by computer to assure maximum service at minimum cost.

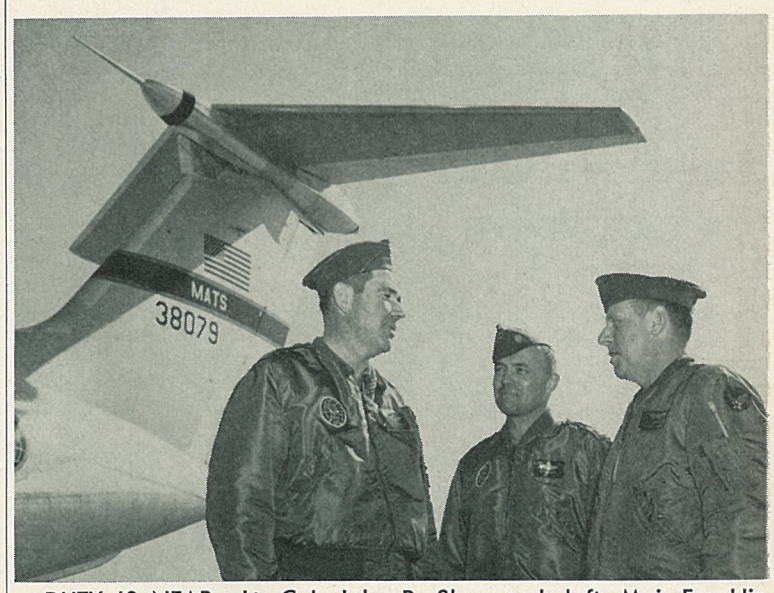
Attending the committee meeting were: E. C. Gordon, T. J. Marcella and M. E. Walker of Convair; J. A. Treese of General Atomic; H. T. McClain and J. A. Spallina of Electronics, Rochester; J. A. Lederer of Electronics, San Diego; S. L. Taylor and D. W. James of Fort Worth; C. W. Schacht, C. L. Penland and Davis of Pomona.



INTERDIVISION MEET—Supplier surveying and source inspection operating procedures were discussed by the General Dynamics Supplier Quality Control Working Committee during recent two-day meeting at Pomona. Left to right: E. C. Gordon, T. J. Marcella and M. E. Walker, Convair; C. W. Schacht, Pomona; J. A. Treese, General Atomic; C. L. Penland and Committee Chairman R. B. Davis, Pomona; H. T. McClain and J. A. Spallina, Electronics (Rochester); J. A. Lederer, Electronics (San Diego); S. L. Taylor and D. W. James, Fort Worth.



AT PLANT 1 — Reunion of GD/Convair plants at San Diego has had an element of "Old Home Week" about it as veterans return to familiar haunts. Jim Dempsey, Convair president, is shown hearing about Charger from Pilot John Knebel. Also shown are W. T. Dorrance, Convair director of special programs, R. C. Sebold, vice president-research, development and engineering, C. W. Frick, director of advanced design and technology.



DUTY IS NEAR—Lt. Col. John R. Sherwood, left, Maj. Franklin Schneider, center, and CMSgt. Patrick Murtha are shown at Tinker AFB, Okla., discussing plans for operating newest MATS transport, Lockheed C-141 Starlifter when it goes on duty next month. T-tail in background, 39 feet high and 50 across, is produced by GD/Convair at San Diego.

GD

CONVAIR EDITION

GENERAL DYNAMICS NEWS

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FOR CRAFTSMANSHIP—In top photo, President James R. Dempsey presents first Craftsmanship award in "Do Good Work" program at Plant 1. Foreman E. D. Robinson accepted on behalf of Dept. 119 (metalbond fabrication and assembly). In lower picture Dempsey presents "C" pin to Owen E. Richardson, engine lathe operator, on occasion of Dept. 731 at Plant 71 winning Craftsmanship award for third time. Walter Herchold, in background, accepted on behalf of Dept. 731.

Gen. Schriever To Speak For Merging Clubs

Gen. B. A. Schriever, Commander of the Air Force Systems Command, will be featured speaker at the first joint meeting of Convair Management Clubs April 15 in the Caribbean Room of El Cortez Hotel.

General Schriever will discuss overall contractual requirements for new programs as outlined in AF 375 Series Manuals, system program management procedures.

Social hour begins at 5:30 p.m. followed by dinner and program. Dinner tickets are on sale by Management Club Boosters at all Convair plants.

Sponsoring is the Space Launch Vehicles organization under C. S. Ames, division vice president and SLV program director.

A seven-man steering committee, headed by Ralph Bauman, NMA Zone A director, is responsible for groundwork in merging Plant 1 and Plant 71 clubs. Other committee members are Gary Gonlag, R. E. King, Art Wood, of Plant 71; M. L. Sweeney, Harold Hahn, and R. G. Macomber, all of Plant 1. Don Slingsby and W. J. Wood, club presidents, are acting in an advisory capacity.

Report from the nominating committee, headed by J. S. Bryant, will be given at the April 15 meeting. Ballots will go to all members on the rolls of both clubs later this month with election of a single slate to head the combined Convair Management Club set for May. Culmination date of the merger is July 1.



TOP HONORS—Convair Vice President J. H. Famme presents plaque and $250 gift certificate to 1964 President's Award winner, Lee W. Stamper, Dept. 119 assistant foreman at Plant 1.

Keough and Stamper Share 1964 Honors

N. R. Keough was tapped "Man of the Year" to receive Convair (Plant 1) Management Club's coveted silver "mug" as the man who, through individual effort, has contributed most significantly during the last year.

Sharing the spotlight at the March 24 Awards Night was a 24-year Convair veteran, Lee W. Stamper, announced as President's Award winner for 1964.

Keough, manager of Convair Plant 1 engineering prototype facility, was largely responsible for pushing through production of the first COIN craft, Convair's Charger prototype, in six months from start to finish. He was in charge of all operations of the "closed door" project during the crash program.

Keough joined the company at Vultee Field in 1940 and transferred to the San Diego division of Consolidated Aircraft in 1947. Over the years he has been superintendent of development and modification, sub-contract production, experimental, and Little Joe II production.

(Continued on Page 2)

'Do Good Work' Depts. Honored

February's Craftsmanship awards in GD/Convair's zero defects-type "Do Good Work" program went to Dept. 731 at Plant 71 and to Dept. 119 at Plant 1. Dept. 731 is machine shop; Dept. 119 is metalbond fabrication and assembly.

Convair President James R. Dempsey presented the awards.

For Plant 1, this is the first of the Zero Defects program which started Feb. 1. When the former Astronautics division was recombined with the Convair division, Zero Defects was combined with Astro's "Do Good Work" program and the name "Do Good Work" retained.

E. D. Robinson, Dept. 119 fore-

(Continued on Page 2)

Perfect Safety Records Lauded At Annual Awards Banquet

Highest divisional recognition for perfect safety records throughout the year of 1964 went to departments of Plant 71/19, and off-site bases, at the annual awards banquet this month.

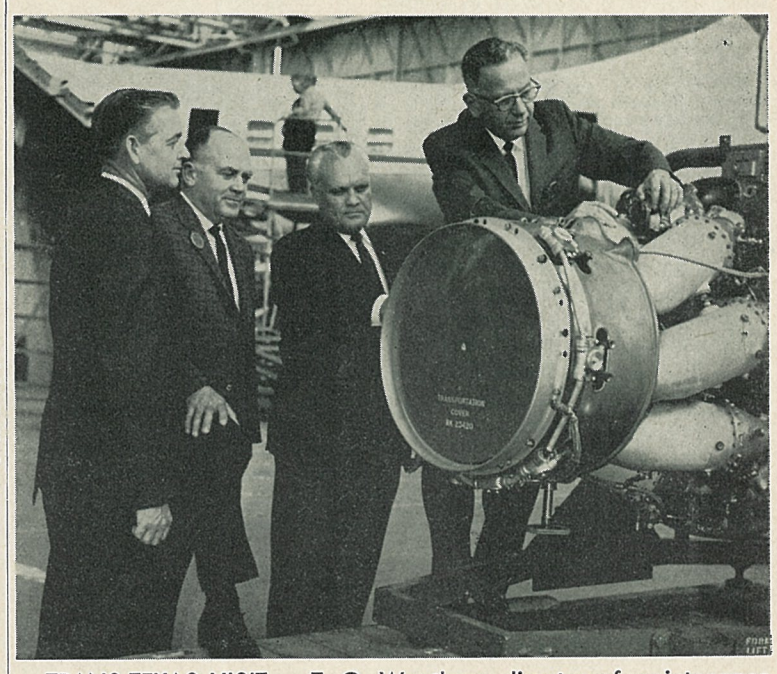
Dept. 731 (machine shop) was sweepstakes winner out of a field of 37 competing departments in the on-site safety and good housekeeping contest directed by the safety engineering section of industrial relations.

Sycamore Canyon Test Site (Dept. 976) led off-site bases by going an entire year without a serious medical case. In fact, the Sycamore base had chalked up an unprecedented 903 days without a lost-time accident at the time of the March 16 presentation in Kearny Mesa Clubhouse.

President James R. Dempsey, in presenting symbolic trophies to Walt T. Herchold, Dept. 731 general foreman, and W. F. Chana, Sycamore base manager, emphasized the importance of safety in all its aspects, pointing out that safety and good housekeeping constitute basic factors in the "Do Good Work" program, and, as such "contribute significantly to the well-being of each individual and the entire company."

(Incidentally, Dept. 731 was a double winner of the Craftsmanship Award in the zero-defects-type "Do Good Work" drive the first two months of this year.)

(Continued on Page 2)



TRANS-TEXAS VISIT — T. O. Weathers, director of maintenance and engineering for Trans-Texas Airways, Inc. (left), and J. M. Brooks, Trans-Texas vice president of training (center), inspect Rolls-Royce turboprop engine which will power Trans-Texas' 240-Ds with L. J. Bordelon, Convair manager of commercial customer requirements (second from left), and H. G. Rote, foreman in charge of Dart-Convair conversion at San Diego plant.

Trans-Texas Reps Meet On Conversion Details

Preliminary technical discussions on conversion of the Trans-Texas Airways, Inc., fleet of Convair 240s to propjet Dart-Convairs were held at GD/Convair this month with officials of both Trans-Texas and the GD division participating.

Convair is supplying Dart-Convair modification kits for 25 Trans-Texas aircraft. First deliveries are scheduled in September.

T. O. Weathers, Trans-Texas director of maintenance and engineering, and J. M. Brooks, Trans-Texas vice president of training, were at the San Diego plant March 15-16 for consultations with R. R. Hoover, Dart-Convair program manager, and heads of service engineering and customer requirements.

Weathers had dual responsibilities while in San Diego. In addition to Dart-Convair planning, he was involved in setting up arrangements for the Air Transport Association's Local Service Airlines Conference which Convair will host in May. Weathers is serving as a chairman of this year's session.



AWARDS — Receiving trophies on behalf of departments topping 1964 GD/Convair safety contest, presented by Convair President J. R. Dempsey this month, are from left: Les Milton, Dept. 146 group engineer; Ray Kendall, Dept. 758 supervisor at Plant 19; Walt T. Herchold, in charge of Dept. 731, first in on-site competition; Dempsey; W. F. Chana, operations manager of Sycamore Test Site, leading off-site base; James R. Evans, Dept. 460 foreman.

Log Book Entries

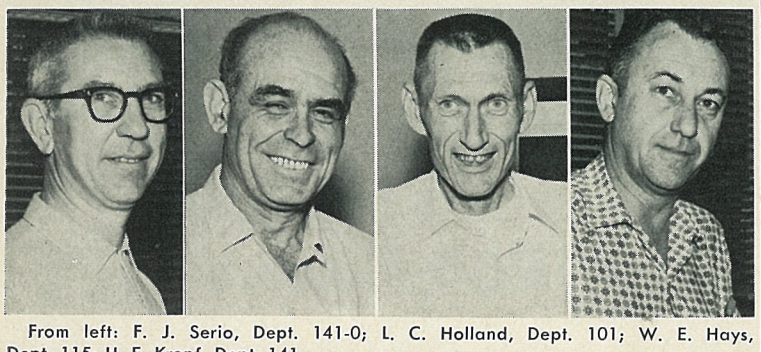
25-Year Men Recognized



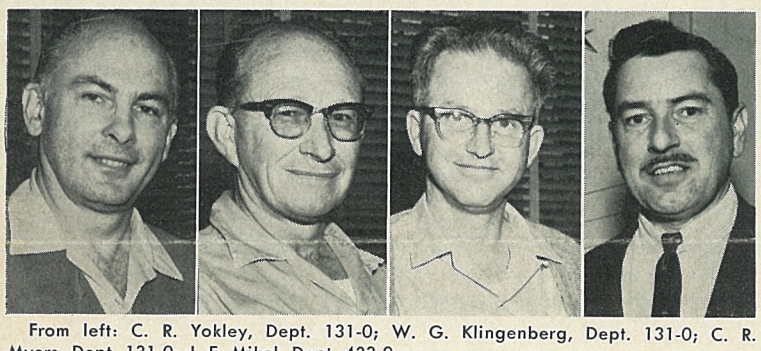
From left: D. H. Sandin, Dept. 406-0; John Walsh, Dept. 833-1; W. M. Flenniken, Dept. 837-1; V. C. Breit, Dept. 119-0.



From left: J. R. Spurgeon, Dept. 6-21; O. C. Banke, Dept. 115; D. W. Kennedy, Dept. 116-0; J. B. Franklin, Dept. 6-21.



From left: F. J. Serio, Dept. 141-0; L. C. Holland, Dept. 101; W. E. Hays, Dept. 115; H. E. Kropf, Dept. 141.



From left: C. R. Yokley, Dept. 131-0; W. G. Klingenberg, Dept. 131-0; C. R. Myers, Dept. 131-0; J. E. Mikol, Dept. 423-0.

Service Emblems

CONVAIR

Service emblems due during the period March 16 through March 31.

Thirty-five-year: Dept. 715-0, R. L. Williams.

Twenty-five-year: Dept. 6, J. B. Franklin, Irvin Olson, J. R. Spurgeon; Dept. 42-5, L. M. Guess; Dept. 101, Michael Chakarun, H. T. Edwards Jr.; Dept. 131-0, W. G. Klingenberg, C. R. Myers; Dept. 141-0, H. E. Brisbin, H. E. Kropf, F. J. Serio; Dept. 401-4, M. W. Lamb; Dept. 423-0, J. E. Mikol; Dept. 483-6, L. P. Sabat; Dept. 759-0, J. C. Chuckta; Dept. 972-0, J. F. D'Alesandro.

Twenty-year: Dept. 6-22, L. R. Garner; Dept. 119-0, John Maroldo; Dept. 141-0, Rudolph Casados, L. F. Pendarvis; Dept. 403-3, Lawson Rollo Jr.; Dept. 483-7, E. L. Whiteman; Dept. 576-1, H. D. Walker; Dept. 972-0, L. R. Turpin.

Fifteen-year: Dept. 3-1, N. E. Wallace; Dept. 6-53, C. B. Wells; Dept. 101-2, B. W. Slovacek; Dept. 142, L. B. Lewis, H. E. Vlachos; Dept. 143-4, C. L. Vineyard; Dept. 193-3, Wilma B. Nickell; Dept. 400-1, E. H. Williams; Dept. 460-0, M. P. Hess; Dept. 483-2, Martha C. Woody; Dept. 503-3, Edgar Howard; Dept. 522-2, Onita C. Hall; Dept. 547-7, C. B. Covey; Dept. 700-0, H. J. McDuffee; Dept. 835-6, V. W. Way; Dept. 959-0, L. D. McDaniel; Dept. 972-0, B. W. Duke.

Ten-year: Dept. 6, C. G. Anderson, John Collins, K. A. Morgan; Dept. 25-4, Robert Miranda; Dept. 115-0, R. D. Hampton; Dept. 401-3, R. A. Bernhardt; Dept. 487-0, R. E. Misterait; Dept. 522-6, J. W. Shastid; Dept. 524-3, Marguerite R. Bronson; Dept. 525-2, J. M. Atkins; Dept. 528-1, C. C. Love Jr.; Dept. 556-7, D. J. Schroeder; Dept. 591-4, R. L. Limes; Dept. 687-1, J. F. Carberry; Dept. 744-0, J. A. Maillet; Dept. 780-1, Margaret A. Kelly; Dept. 832-2, Beulah S. Hamilton, Sue Ann McMilliam; Dept. 976-3, H. J. Quick.

ELECTRONICS

Twenty-five-year: Dept. 4073, W. L. Tate.

Ten-year: Dept. 6853, H. C. McCray.

STROMBERG-CARLSON

Ten-year: Dept. 8421, Helen J. Wood.

General Dynamics News

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Convair division editorial offices: Plant 71 (Kearny Mesa) Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Plant 1, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Plant 71. Three hours; Monday, April 5, 8-11 a.m., Room 6, Bldg. 17, Plant 71. Plant 1, ext. 491; one hour; First shift, Tues. Apr. 27, 8-9 a.m., Aud. Bldg. 14. Second shift, Tues. Apr. 20, 4:30-5:30 p.m., Aud. Bldg. 14.

PROFESSIONAL/TECHNICAL

DART ENGINE SYSTEMS — D. R. Maxion, ext. 491, Plant 1. Eighty hours; daily, 7-11 a.m., through April 9, Bldg. 14, Room 8, Plant 1.

ELECTRON BEAM WELDING—Dennis Suchecki & Roger Beemer, ext. 1931, Plant 71. Limited enrollment. Ten hours, Mon., Wed., Fri., 9-11 a.m., April 5-14. Room 1, Bldg. 17, Plant 71.

ENGINEERING & DESIGN DRAFTSMEN REVIEW (For Draftsmen working in Convair structures groups)—J. W. Beatty & Dennis Suchecki, ext. 1931, Plant 71. Forty-eight hours, Tues. 7-8 a.m., Thurs. 8-9 a.m., April 6-June 24, Conf. Room (Col. E/7) Bldg. 33, Plant 71.

FLOX SAFETY—Hal Rubin, ext. 1931, Plant 71. Four hours; Wed. and Thurs., March 31, April 1, 9-11 a.m. Administration Bldg., Sycamore Test Site.

PLASTIC MIXING (For Mixing Room Personnel)—Hal Rubin, ext. 1931, Plant 71. Limited enrollment. Ten hours; daily, 3:45-4:45 p.m., March 22-April 2, Bldg. 27 Lab & Bldg. 33 conference room, Plant 71.

PRODUCT IMPROVEMENT PROGRAM—Will Weidenfeller, ext. 1931, Plant 71. Limited enrollment. Four hours; daily, 7-8 a.m. Operations conference room, Bldg. 5, Plant 71. Group 6: April 5, 6, 7, 8. Group 7: April 12, 13, 14, 15.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota, call ext. 1931. Plant 71. Weekly, 7 a.m.-3:45 p.m. Room 4, Bldg. 17, Plant 71.

AFTER HOURS TRAINING IN-PLANT

BOOLEAN ALGEBRA — (Engineering Application)—Jim Hanratty, ext. 1931, Plant 71. Twenty hours; Tuesday 5-7 p.m., March 2-May 4, Room 2, Bldg. 17, Plant 71.

FORTRAN for ENGINEERS — IBM staff, ext. 2610, Plant 71. Limited enrollment. Thirty-two hours, Tues., Thurs., 5-7 p.m., April 7-May 27. Room 6, Bldg. 17, Plant 71.

NON-DESTRUCTIVE TESTING—D.C. Ryle, ext. 1767, Plant 71. Co-sponsored by Society for Non-Destructive Testing; Tuition, $35. Total, 72 hrs. Part I: Classroom, 48 hrs., Thursdays, 6:30-9:30 p.m., Plant 1, Bldg. 14 Aud., March 4-June 17. Part II: Workshop, 24 hrs., Tuesdays & Wednesdays, 6:30-9:30 p.m., Plant 1 shop area; May 11-June 3.

Births

CONVAIR

HARRIS—Daughter, Amy Marlene, 7 lbs., born March 15 to Mr. and Mrs. Alan Harris, Dept. 549-3.

Peace Corps Call Answered by Score

At presstime, 22 GD/Convair employes had scheduled interviews with Peace Corps representatives during the week of April 5. Convair is supporting the drive for voluntary enlistments. Those employes who desire to join the world-wide struggle to alleviate poverty and disease by joining the Corps will be granted a leave of absence.

Requests for interviews will be accepted until 5 p.m. today (March 31). Call Mrs. Rauzon, ext. 2133 (Plant 71) for information.

'Do Good Work' Depts. Honored

(Continued from Page 1)

man, accepted the Craftsmanship plaque for Dept. 119.

Dept. 731 won the monthly award in March, 1964, and in January of this year; therefore, in addition to the Craftsmanship plaque, Dept. 731 craftsmen were each awarded a Silver C lapel ornament. Dempsey presented 60 of the lapel pins and John P. Hopman, factory manager, assembly and fabrication, awarded pins to the 38 second-shift craftsmen. W. T. Herchold is Dept. 731 general foreman.

Since the zero defects-type program began in January, 1964, the overall defect ratio has improved 60 per cent.

Stromberg-Carlson Mgt. Club to Meet

"Leadership Effectiveness" will be the topic of Robert F. Smith, president of Phillips-Ramsey, Inc., San Diego advertising agency, when he appears before the April 8 meeting of Stromberg-Carlson Management Club.

Smith was former assistant to the vice president-administration of Convair.

Meeting place will be Fisherman's Wharf Grotto, Point Loma, with social hour at 5:30, dinner at 6:30, program at 7:30 p.m.

Members who bring guests will be rewarded with chances on prizes in a special raffle.

Tickets now are on sale by departmental representatives at both Plants 1 and 2 (Hancock St.).

Photos of Charger On Sale at Mesa

Colored photographs of Convair's Model 48 Charger aircraft in flight now are on sale at the Kearny Mesa Clubhouse ticket sales office at 25 cents each. No tax is charged.

Invention Disclosures

CONVAIR

HANNAY—P. M., Dept. 527-3. Cable, Tubing and Wiring Support Clamp.

HANNAY—P. M., Dept. 527-3. Power Cartridge Disconnect.

NEWSOM—B. D., Dept. 262-2. Vibrator Impulse Pump.

WARD—K. E., Dept. 65-3. Balanced Lateral Control Device for Aircraft.

WYSNEWSKI — R. E., Dept. 146-2. Radiographic Identification of Unknown Materials.

Retirements

CONVAIR

AUDAS—Hugh, Dept. 401-4. Seniority date Aug. 31, 1951, retired March 12.

GIBB—Harold A., Dept. 63. Seniority date Sept. 10, 1933, retired Feb. 26.

IVERSON—Melvin J., Dept. 48. Seniority date March 25, 1937, retired Feb. 12.

PRITCHARD—Thomas L., Dept. 401-4. Seniority date July 7, 1947, retired March 12.

THOMASON — Vernie V., Dept. 48. Seniority date Oct. 24, 1950, retired Feb. 28.

Personals

On behalf of the entire family of Joe Stowers, we wish to gratefully acknowledge our deep appreciation to employes of General Dynamics for their kind expressions of sympathy and donations to the Cancer Society in his memory.

Mrs. J. H. Stowers

* * *

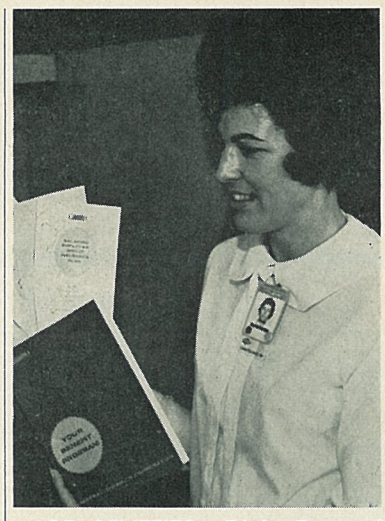
I wish to express my deep appreciation to Convair friends for the expressions of sympathy and beautiful flowers received at the death of my husband, Edmund B. Young.

Lena Young.

Deaths

CONVAIR

GONZALEZ—M. G., Dept. 101. Died March 11. Survived by wife, Elba L.



GD BENEFITS—Dixie Ernst of Convair Dept. 130-5 checks over booklets outlining General Dynamics fringe benefits — group insurance, retirement, etc.—contained in handsome folio which will be available to flat-salaried starting tomorrow (April 1) at Convair employe services. Same material will go to GD/Electronics and Stromberg-Carlson people in near future.

Keough, Stamper Share Honors

(Continued from Page 1)

Stamper, Dept. 119 assistant foreman, was named outstanding cost reduction man of the division by Vice President J. H. Famme who made the award presentation.

Choice of Stamper over the five other candidates was based on participation (he had 12 CIPs approved and installed during the year), originality, ingenuity, completeness of proposals, and total dollar savings.

His CIPs, which saved the company $28,638, initiated improved plastics and bonding techniques, mainly for C-141 production.

Other men honored as Mac-Save-its for top cost saving suggestions during the last five months were: G. D. Carroll (Dept. 115), October; N. P. Pearson (Dept. 141), November; R. G. Macomber (Dept. 93), December; H. A. Mohr and H. M. Woodard, both Dept. 101, January; R. J. Ratliff (Dept. 116), February.

Carroll was credited with $3,980 savings for his method of reclaiming titanium material in manufacturing processes. Pearson's $59,661 CIP resulted in the adaptation of Erco riveting equipment for C-141 skin panels.

Macomber saved the company $18,972 by his CIP concerning the collection of division and Corporate administrative overhead on fixed price programs. Mohr and Woodard saved $14,380 with their joint proposal of an improved method of making fiber glass leading edge ribs for the C-141. Ratliff's CIP, worth $15,995 in savings, installed an improved method of potting of electrical connections on C-141 leading edges.

Milt Hangen received the club's "Sportsman of the Year" trophy for his many years of service in promoting sports for Management Club members.

Controller's department was sponsoring group.

PERFECT SAFETY RECORDS LAUDED

(Continued from Page 1)

Machine shop employes had only 17 points, or an overall percentage of .010 average points per 100 employes, tallied against them during the entire year.

Dept. 143 (quality control), 1963 winner, stood in second spot with a .018 percentage. Major assembly at Plant 19 (Dept. 758), was a close third with .020.

Scoring is based on stringent considerations: amount of lost time, number of serious medical cases (any injuries requiring more than mere first aid), good housekeeping, delay in treatment, attendance at safety meetings, prompt accident investigation, J. W. Garrison, chief safety engineer, explained.

Special plaudits went to Sycamore site for its outstanding safety performance during the last three years as an operational test base using critical and volatile fuels.

Dempsey also presented trophies to three other departments for working the full year without a serious medical case. They were Dept. 758 under Ray Kendall; Dept. 460 (tool service), James R. Evans, foreman; Dept. 146 (failure analysis group of reliability control), Les Milton, group engineer.

The division as a whole (formerly known as Astronautics) has placed among the top three companies throughout the nation in its division of Aerospace Section safety competition of the National Safety Council since the GD division was formed in 1956.

Target for the current year will place the division well out in front if each department attains the goal it has set for itself. Every department has pledged to reduce its frequency rate of accidents by 25 per cent.

M. V. Wisdom, director of industrial relations, acted as master of ceremonies at the awards presentation. He paid tribute to the efforts of Garrison and John P. Hopman, Plant 71 factory manager and chairman of the General Safety Committee, for their constant vigilance and encouragement of safe operations throughout the division.

During the evening G. L. Hansen, vice president and Centaur program director; E. D. Bryant, vice president of operations; P. I. Harr, director of reliability; and W. L. Van Horn, Plant 71 works manager, spoke briefly to add their personal recognition to personnel who earned safety honors for functions under their direction.

Sports Car Members To Meet Jointly

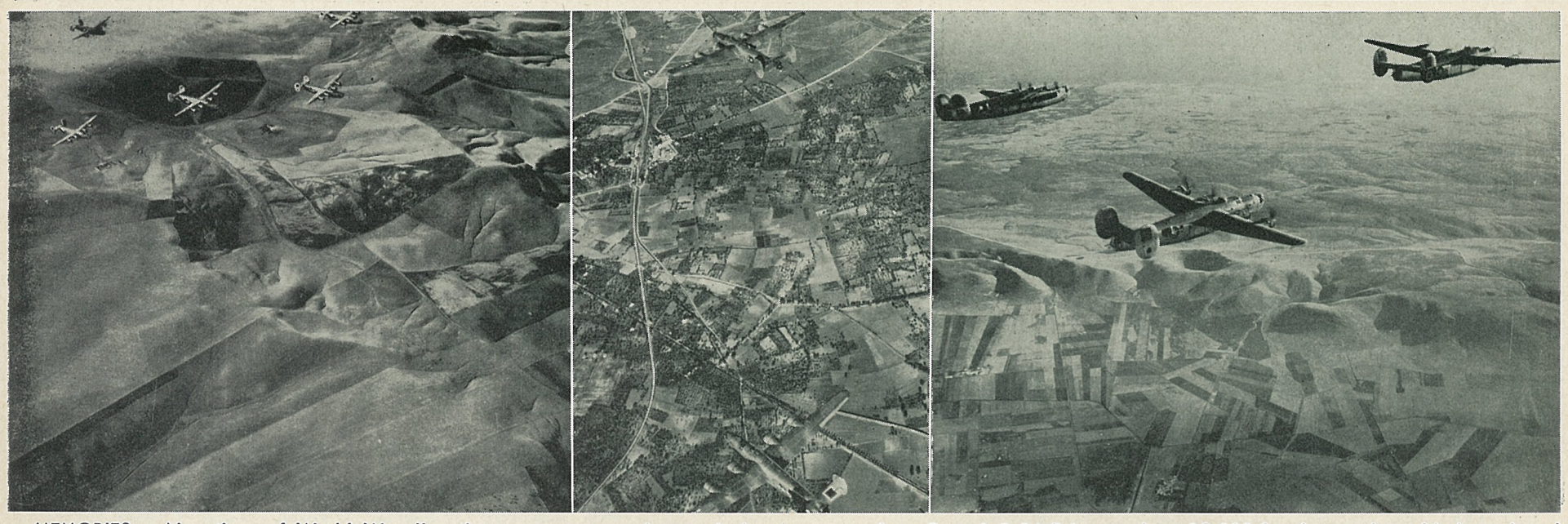
First combined meeting of Plant 1 and Plant 71 Sports Car Clubs will be April 7 at 7:30 p.m. in the Convair executive dining room, Pacific Hwy.

Recommendations for changes in the constitution and bylaws will be discussed as well as time and meeting place for the combined club.

A film on the manufacture of Volvo automobiles and one on car racing will be shown.



MAN OF YEAR—Nick Keough, manager of Convair engineering prototype facility, receives Plant 1 Management Club's silver "mug" as outstanding man of 1964 from W. W. Fox.



MEMORIES — Negatives of World War II action were uncovered recently by J. W. Gage, GD/Fort Worth Dept. 211, in his attic. They produced these strikingly clear photos, presumably of Southern Europe. Pictures were taken with K-37 camera from Convair B-24 flying at about 18,000 feet by member of Italy-stationed 460th Bomb Group, with which Gage made 35 combat missions as ball turret gunner.

Atlas Pinpoints Ranger On Journey to Moon

Atlas space launch vehicle 204-D performed with pinpoint accuracy March 21 when it launched Ranger 9 on its way to the moon.

B. G. MacNabb, director of operations for General Dynamics/Convair at Cape Kennedy, said the Atlas had turned in one of its best performances, giving the Agena second stage an insertion velocity within one-half foot per second of the programmed 18,500 feet per second.

Ranger 9 is the final flight in the Ranger lunar photographic program which is directed by the National Aeronautics and Space Administration (NASA). Convair builds the Atlas launch vehicle (Atlas LV-3A) for the Air Force which provides the complete Atlas launch system used in NASA programs. Convair also builds NASA's high-energy upper stage vehicle, Centaur.

The Ranger project is the first of three U.S. space programs designed to gather information about the moon prior to men landing there. As the Ranger program ends, the two other programs, Lunar Orbiter and Surveyor, are nearing operational status. The Convair-built Atlas will launch the Lunar Orbiters, and will combine with Centaur to boost Surveyor spacecraft to soft landings on the moon.

The first Ranger vehicle was launched Aug. 23, 1961, with Atlas 111-D performing as required. Atlas 117-D also performed successfully Nov. 18, 1961, in launching Ranger 2. These two missions were not intended to land spacecraft on the moon.

For Ranger 3, Atlas 121-D provided more velocity to the Agena-B second stage than was planned and the Ranger did not achieve its proper moon trajectory.

Atlas 133-D launched the Ranger 4 spacecraft on April 23, 1962. In that flight the trajectory of the Atlas was so accurate that the spacecraft impacted on the moon without the use of a mid-course correction.

In the fifth Ranger flight on Oct. 18, 1962, Atlas 215-D successfully performed its mission, but because of spacecraft difficulties, the primary mission objectives were not achieved.

The sixth Ranger flight occurred Jan. 30, 1964. Atlas 199-D successfully launched the Agena upper stage and the Ranger, but the Ranger did not send television pictures of the lunar surface back to the earth.

The flight of Ranger 7 on July 28, 1964, was a spectacular success, resulting in the first close-up photographs of the moon's surface. Atlas 250-D successfully started the Ranger on its moon trajectory.

Ranger 8 was a repeat performance with Atlas 196-D performing successfully on Feb. 17, 1965.

Electrical Stimuli For Sharks Studied

Dr. Eugene Agalides, head of the biophysical laboratory at GD/Electronics, Rochester, is in Florida and the Bahama Islands, studying sharks and their susceptibility to electrical stimuli.

This will supplement the work on electrical communication between fish which Dr. Agalides has been doing for several years at GD/E, where he maintains an extensive aquarium which includes many different types and species of electric fish and eels.

Liquid Carbonic Expands in Texas

The Houston, Texas, plant of Liquid Carbonic Division of General Dynamics is being expanded in a program designed to handle growing business volume in the Houston area.

J. A. Edwards, president of Liquid Carbonic, said Liquid Carbonic has operated production facilities in Houston for more than 50 years, primarily to produce dry ice and liquid carbon dioxide.

This division, headquartered in Chicago, operates more than 50 gas plants in the United States.

Space Engineers Map Possible Mars Routes

Take a few inquisitive engineers, a couple of ping-pong balls and a 7090 computer, and what do you come up with?

A timetable to the planet Mars —and for good measure, a swing by Venus on the way back.

Such a study is being made by GD/Fort Worth's astro-propulsion analysis group. To the earth-bound, results seem rather awesome.

For example: it'll take a space ship, traveling at an average speed of 60,000 mph, about 460 days to complete the 650-million mile round trip to Mars. Add 80 days to make the swing by Venus.

"It's possible to make the trip only about every two years, when the relative angular position of Mars and earth is most favorable," said Sam Wilson, senior aerodynamics engineer.

"Mars and earth are only about 35 to 60 million miles apart under best conditions, but the spacecraft must follow a circuitous path about the sun to minimize propellant requirements."

Venus, however, comes into the "flight path" only about twice every 6½ years.

In making calculations, engineers use ping-pong balls as spherical "scratch pads" on which routes can be drawn, then scaled.

It took a 7090 computer just 15 minutes to calculate some 8,000 possible routes to Mars. An engineer would have spent 200 working days making the same calculations.

The resultant chart would make the world's most complicated railroad guide look like a first-grade primer. But it can be used to determine the route a space ship would have to take if leaving on any particular day.

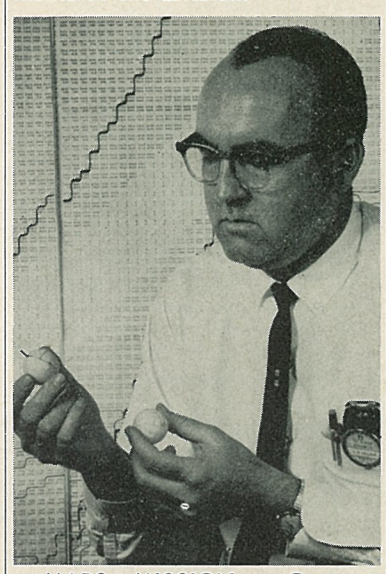
"Such a study is preliminary to detailed studies," Wilson pointed out. "We must know something of the routes before we can intelligently select the size of the spacecraft, the propellant required, and the number of people it will carry."

The projected 460-day trip does include about 40 days either in circling or—if possible—actually exploring Mars.

"We don't know enough about the planet yet to design landing vehicles," Wilson said. "NASA's unmanned planetary exploration programs—Mariner and Voyager —are expected to provide vital design data for this purpose."

The study is part of GD/FW's independent research and development program.

It is one of a number of studies on space travel conducted by the research and engineering departments of the division.



MARS MISSION — Common ping-pong balls, representing earth and Mars, were used by GD/Fort Worth astro propulsion analysis group in developing "timetable" for trip to Mars (shown in background). Sam Wilson, senior aerodynamics engineer, participated in project.

GD/Pomona Contracts Boost Small Business

Small business firms in 39 states received $14.4 million in subcontracts awarded by General Dynamics/Pomona in 1964 for components, sub-assemblies and services, R. D. Webster, GD/Pomona director of material, announced last week.

Subcontracts to small business firms represented 21 per cent of total procurement dollars paid to suppliers in 43 states and Canada.

"Although our total payments to suppliers were less than during 1963, the percentage paid to small business firms increased .5 per cent over last year," Webster said. "This net gain, although relatively small, is more significant when it is considered that approximately $2 million, or 3.8 per cent, was spent with companies classified 'small' in 1963 but grown to 'big business' in 1964."

A small business, as generally defined by government regulations, is independently owned and operated and is not dominant in its field of operation and, including its affiliates, employs fewer than 500 employes.

"Supplier mergers and normal growth requires us to perform more effectively in the operation of our Small Business Procurement Program than the percentage figures alone indicate," Webster explained.

Jet Fuel 'Filling Station' Can Serve Three F-111s at a Time

Three F-111s can "fill her up" at the same time in GD/Fort Worth's newly revamped aeronautical "service station."

Officially, the station is called the Mechanical Fuel Storage Facility. It was built in 1941, but completely revamped recently to make airplane fueling quicker and safer.

Underground lines from the 100,000-gallon capacity JP-4 jet fuel storage tanks feed into the Defueling Purge Area. (Since airplanes will be fueled for the first time in this area, it obviously needs renaming.)

An "attendant" simply pushes a button, and JP-4 fuel flows at 600 gallons a minute into each of as many as three F-111s at a time. After a flight, F-111s can be purged, or defueled in the same way.

Previously, virtually all fueling was done from regular fuel trucks.

"The new method is at least twice as fast," said Frank Clayton, chief plant engineer. "It is also infinitely safer, since most fuel handling has been eliminated.

"And fueling time has been cut drastically. This gives pilots just that much more time to either fly the plane or get it ready."

In addition to the 100,000-gallon JP-4 storage area, the facility boasts an underground storage tank of 25,000-gallon capacity for regular aviation gas.

A new pumping station shed is part of the new complex, along with new truck loading ramps capable of handling four vehicles at a time for jet fuel and an additional two trucks for regular aviation gas.

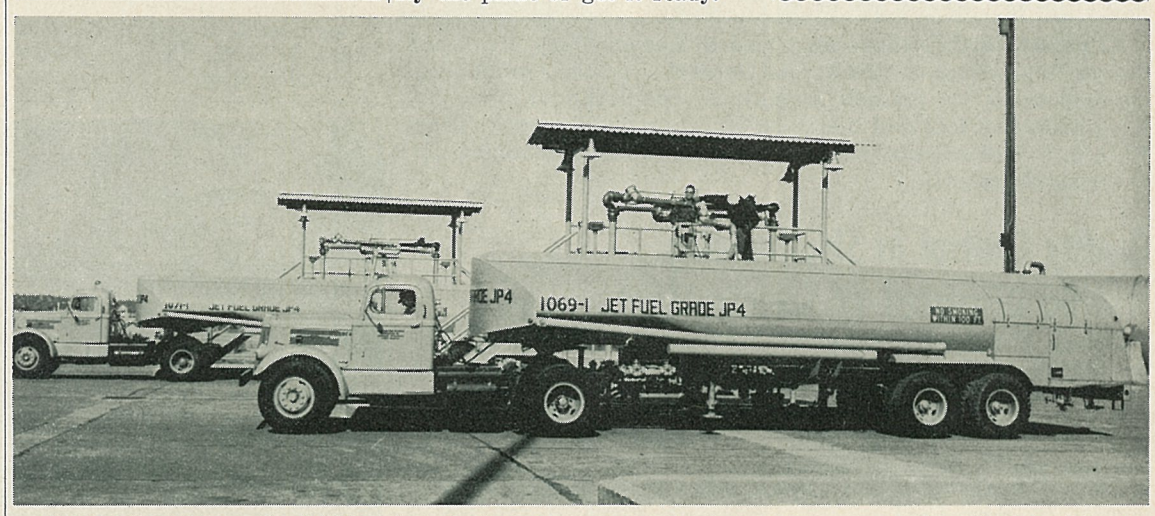
With modern quick-connect equipment, a 4,500-gallon truck can be loaded with fuel and ready to roll in 10 minutes.

The new storage facility appreciably lessens the possibility of contaminating fuel.

Dan Igo Selected For Patent Board

Daniel E. Igo, General Dynamics Corporate patent counsel, is a member of the new board of directors of the Manufacturers Aircraft Association, selected at the annual meeting in New York early this month.

The Association administers the patent cross-licensing agreement for the airplane industry in the United States.



QUICK SERVICE — A 4,500-gallon fuel truck — up to four at a time — can be filled in 10 minutes at GD/FW's revamped Mechanical Fuel Storage Facility north of main plant. Facility is designed to service as many as three F-111s at a time.



IN CLASS — Eric Appleton, turboprop instructor from Rolls-Royce of Canada's training school, makes presentation at first training course on Dart-Convair engine systems now in progress at GD/Convair.

Dart-Convair Training Course Explains Engine, Vendor Parts

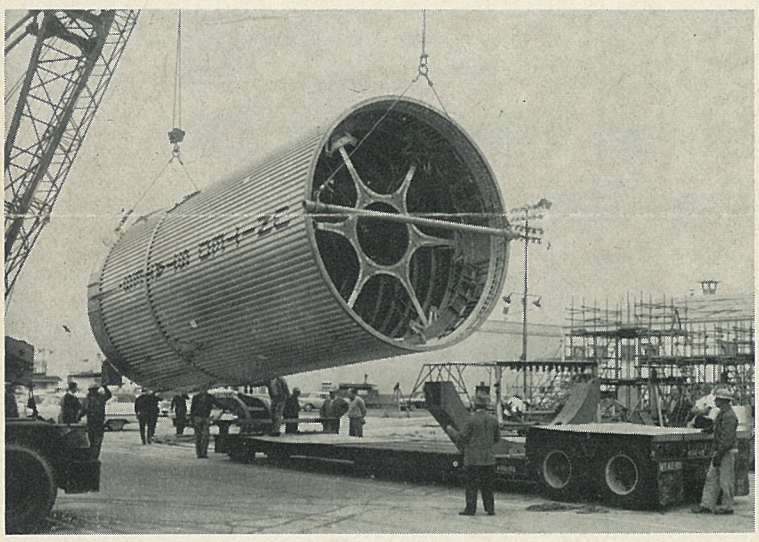
First formal training course on the Dart-Convair started March 15 at GD/Convair for 18 persons from various functions involved in the aircraft conversion program.

The 80-hour course on Dart engine systems, coordinated through Convair educational services, will familiarize people working on the aircraft line and associated operations with the Rolls-Royce Dart R. Da. 10 engine, Dowty-Rotol propellers, and other vendor equipment and how components tie in with the entire aircraft system.

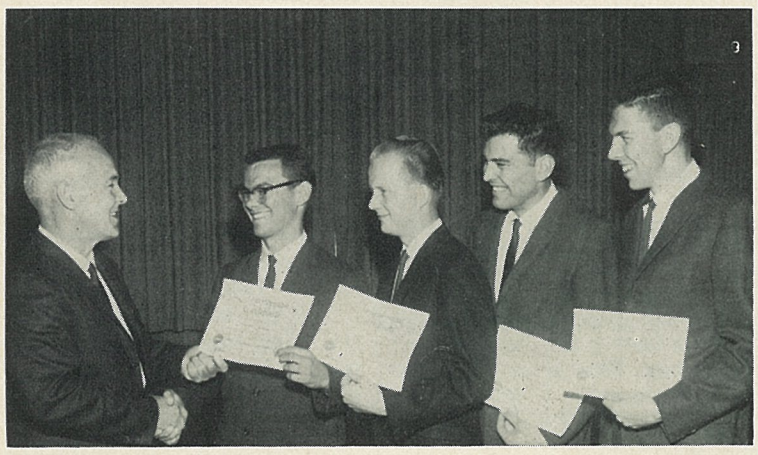
Class members have been selected from Dart-Convair modification, final assembly, field operations, inspection, and technical publication sections.

Rolls-Royce representative at San Diego for the initial training course is Eric Appleton, turboprop instructor at Rolls-Royce of Canada's Montreal training school.

Don Maxion, Convair regional field service representative, is instructing.



MOVE OUT — Attitude controlled Little Joe II launch vehicle, sixth built by GD/Convair for NASA's Apollo spacecraft program, is loaded at San Diego for journey to White Sands Missile Range, N.M., where it will be readied for fourth firing in test series. It pulled into White Sands right on schedule March 19.



CONGRATULATIONS! — Max Yale of Convair Plant 1 structural design (left), wishes success to four General Dynamics "graduating" apprentices as he presents journeymen certificates to (from left) C. J. Anderson, tool and die; J. N. Stockham III, electronics (Dept. 131); E. E. Perkins, tool and die, and J. P. Hamm, electronics, both in structural design.

Quality Control in Ship-Building Will Be Discussed at Society Meet

General Dynamics members of the San Diego Section of American Society for Quality Control will learn about quality control problems connected with shipbuilding at the April 12 dinner meeting, Bronze Room and Restaurant, La Mesa, Calif.

"Shipbuilding — Unique Challenge to Quality Control," will be the subject of four National Steel and Shipbuilding Co. speakers.

Social hour is at 6 p.m.; dinner at 6:30; and program at 8.

Dinner tickets at $2.50 apiece are available from Paul Gelles, Convair Plant 71, ext. 4504; L. C. Stuckey, Plant 1, ext. 646; R. F. Frederick, Plant 19, ext. 509; J. A. Lederer, GD/Electronics, ext. 1476; and A. T. Fricke, Stromberg-Carlson, Plant 2, ext. 36.

60 SONS, DAUGHTERS ENTER SCIENCE FAIR

Over 60 General Dynamics sons and daughters will exhibit their original scientific projects in the 11th annual Greater San Diego Science Fair opening today (March 31) in Balboa Park's Federal Bldg.

Each exhibitor has independently developed his own project, recorded data and results, and prepared a display to demonstrate his work or premise.

Scientists and educators from local colleges and industries, including General Dynamics divisions in San Diego, will judge exhibits today. Winners will be announced at tonight's Awards Ceremony in the Conference Bldg.

Displays may be viewed by the public from 8 to 10 p.m. this evening, and every day through April 4.

Groups of Science Fair youngsters were scheduled to tour Convair's Kearny Mesa facility this afternoon and the General Atomic plant tomorrow (April 1).

MacNabb Returning As Manager at Cape

B. G. MacNabb returned to a familiar site this month when he was reassigned to the post of manager of GD/Convair base operations, Eastern Test Range, at Cape Kennedy, Fla.

MacNabb had directed ETR base operations from 1956 until July, 1963, when he returned to San Diego to head the test engineering organization of the former Astronautics division, now Convair.

He replaces Kenneth E. Newton, who is leaving the company. Newton joined Convair in 1955, was chief test conductor at Sycamore Test Site and at Cape Kennedy (then Cape Canaveral), and subsequently directed Astro operations at Vandenberg AFB (Western Test Range), before succeeding MacNabb at ETR.

MacNabb continues to report to W. W. Withee, now director—test engineering.

Cash Awards System To Include Plant 1

All Convair hourly and salaried people, with the exception of supervision, now will receive cash awards of ten per cent of net savings for one year ($5,000 maximum) for each approved Employe Suggestion.

ESs and CIPs submitted after Feb. 28 by Plant 1 employes are eligible for the cash awards.

No CIPs from supervision will be accepted after the March 29 cut-off date. Supervisors will submit cost reduction and value control suggestions to departmental representatives. President's Certificates of Commendation will go to initiators of approved cost reduction proposals.

Plant 71 Hoop Five Victors in League

Plant 71's out-in-front basketball team, I.B.J.O.B., went five straight in double-elimination play last week to emerge league winner.

It downed Flag Control 70-45 in the final game March 23 to clinch the title.

Team members will be honored at an awards dinner next week (April 8) in the Plant 71 executive dining room.

Remember! It's Up to YOU to File All State Disability Claims

General Dynamics people are reminded once more that they have sole responsibility for filing state disability claims when they are off the job because of illness or injury.

Employe service functions at San Diego divisions still are receiving inquiries on claim procedures, although the present ruling has been in effect for nearly three years, reports J. K. Field, Convair chief of employe services.

All GD people working in the State of California must file state claims for weekly disability payments directly with the California State Disability Office.

Forms may be obtained at employe services outlets. Filing must be done by employes individually through the state office as soon as possible after they start sick leave.

Group insurance claims should be made as usual through employe services.

Atlas Sustainer System Fired At Lewis Using Combined Fuel

An Atlas launch vehicle sustainer engine system has been successfully fired for the first time using FLOX, a combination of liquid fluorine and liquid oxygen, as the oxidizer, according to a National Aeronautics and Space Administration announcement.

This is the first time a complete engine system has ever been fired using this high-energy oxidizer which increases the specific impulse of a rocket engine. This means that the Atlas launch vehicle could lift either a heavier payload or lift present payloads by using less propellants.

A series of FLOX firing tests is being conducted under a $2.3 million contract with NASA's Lewis Research Center in Cleveland, Ohio.

Approximately 20 firings will be conducted in the series, using the standard concentration of 30 per cent liquid fluorine to 70 per cent liquid oxygen.

Latest Value Seminar Boosts Plant 71/19 Grads Over 1,000

Second Value Engineering seminar of the year at GD/Convair Plant 71 "graduated" 40 more men, including three from other companies, to boost to well over 1,000 the number who have received value engineering training in the Plant 71/19 continuing program.

Hereafter, value engineering programs of Plant 71 and Plant 1 will be consolidated into one effort under direction of E. D. Heller, manager of cost reduction and value control. Next seminar is set for May.

Erle G. Hill, Convair controller, in presenting certificates of commendation at the final session, pointed out that team efforts on actual hardware projects concretely illustrate the type of savings which can be of utmost benefit to the company and its production programs.

Those from other companies were Arville T. Trostrud Jr. and George Strauch of General Precision, Inc., and R. Gregor of Fluidgenics, Inc.

The 40-hour workshop seminar March 8-19 in the Kearny Mesa Clubhouse was under direction of Everett Lindem and Harold Sicard of educational services.

Teams and their projects were:

Team #1—Sustainer Thrust Cone Assembly (submitted by George Loudermilk, operations). A. W. Bailey, Dept. 835-1; E. E. Croft, AFPRO; L. B. Fisher, Dept. 661-8; J. Zamiska, Dept. 403-1; E. L. DePlomb, Dept. 523-7. Project leader, J. D. Gruner, Dept. 504-1.

Team #2—LN_2 Drain Assembly (submitted by S. W. McBain, SLV). G. L. Mair, Dept. 813-0; A. W. Morgan, Dept. 584-1; H. J. Sumner, Dept. 422-0; A. J. Vasques, Dept. 663-8; M. G. Williams, Dept. 780-2. Project leader, Gruner.

Team #3—Sustainer Fuel Valve Position Transducer (submitted by McBain). D. Carson, Dept. 684-1; W. A. Gray, Dept. 780-1; H. F. Lewis, Dept. 686-1; A. L. Snyder, Dept. 971-5; George Strauch, General Precision, Inc. Project leader, G. W. O'Hare, Dept. 650-0.

Team #4—Fuel Manifold Support Assembly (submitted by Loudermilk). W. W. Muse, Dept. 452-0; W. Ketchum, Dept. 662-6; R. G. Stone, Dept. 780-0; C. T. Torrey, Dept. 504-1; A. Trostrud, General Precision. Project leader, O'Hare.

Team #5—RSC Power and Signal Control Unit (submitted by W. E. Willcutt, Dept. 523-7). H. J. Eide, Dept. 403-2; F. J. Glenski, Dept. 490-1; J. W. Richardson, Dept. 528-4; R. R. Serrano, Dept. 145-1; G. P. Stephens, Dept. 547-4. Project leader, O'Hare.

Team #6—Liquid Oxygen Tank Baffle Assembly (submitted by McBain). G. C. Eggen, Dept. 146-1; L. Rollo, Dept. 403-1; H. D. Skidmore, Dept. 857-1; N. Panos, Dept. 527-3; R. Vorne, Dept. 568-1. Project leader, D. F. Evanson, Dept. 403-3.

Team #7 — LOX Boiloff Standpipe (submitted by E. Stelmach, operations). E. R. Emerson, Dept. 564-1; W. M. Williams, Dept. 490-1; D. G. Wilson, Dept. 661-4; W. W. Lahr, Dept. 666-1; S. Yttre, Dept. 567-1. Project leader, Evanson.

Team #8—Heat Exchanger (submitted by Stelmach). R. Brunner, Dept. 732-0; D. Garrison, Dept. 662-9; R. Gregor, Fluidgenics, Inc.; J. N. Lee, Dept. 971-5; D. E. Risty, Dept. 532-1. Project leader, Evanson.

Papers Sought In Symposium

A final call for papers has been made for the 1965 Space Electronics Symposium to be held May 25-27 at International Hotel, Los Angeles, sponsored by Aerospace Electrical Society and American Astronautical Society.

The technical forum and display is dedicated to advancement of the knowledge and techniques of research, development, design, manufacture, management and application of electronics to conquest of deep space.

Abstracts of approximately 250 words should be sent to Ross F. Miller, technical sessions director, Nortronics Division of Northrop Corporation, 1 Research Park, Palos Verdes Peninsula, Calif. Cut-off date was March 15 but late entries are encouraged and will be considered up to April 15.

Topics of technical sessions include space power, space propulsion, life support systems, communications and telemetry, guidance and control, and extra vehicular support systems.



VE SEMINAR — Second Plant 71 Value Engineering seminar of year, March 8-19, indoctrinates 40 Convair men at San Diego in value vs. cost principles.

Sports & Recreation

Four Buses Chartered For Giants vs. Dodgers

Convair baseball fans will have a chance to see the San Francisco Giants play the Los Angeles Dodgers Friday night, April 30, if they sign up now.

CRA has arranged for four buses to carry 160 Plant 1 and Plant 71 people to the Chavez Ravine stadium at special price.

Entire charge is $6.50 a person. This covers transportation, $2.50 admission to the game, and a box lunch, with choice of fish or chicken, coffee or soda pop.

One bus will leave Convair Plant No. 1 from the Bldg. 19 north parking lot at 4:45 p.m.

Three other buses will depart Plant 71 no later than 5 p.m. Passengers will board in the parking lot in front of Bldg. 1 lobby, near the flagpole.

Reservations will be given on a first-come basis starting tomorrow, April 1. Plant 71 people may make theirs through the Kearny Mesa Clubhouse, ext. 1111. Plant 1 people may reserve seats by contacting Molly Dowell, employe services, Bldg. 16, ext. 430.

Trap Shooter Hits Jackpot

CRA Gun Club's big money stake of $446.50, accumulated over the last several months in Troy trapshoots, was wiped out in one fell swoop March 14 when Bill Schrode of Fallbrook hit the jackpot with perfect scores in 16-yd. and handicap events.

Schrode, who had been close to tipping the fat purse several times, won a total of $355.75—cash piled up for perfect combined score, half of the day's purses for 25 straight in handicap and 16-yd., and $18 for high score of the day.

He had to share the day's purses in both 16-yd. and handicap with two other sharpshooters who pressed him all the way. He and Carl Thacker of San Diego each got $17.50 for perfect scores in the 16-yd. Thacker dropped only one bird in the handicap for a total combined score of 49.

Jack Smalley of San Diego and Schrode split the $73.50 up for grabs in the handicap.

Twenty-four shooters, largest field ever vying in a Troy shoot, turned out for the big event at Gillespie Field Range.

Gem Show April 10-11 Open to All GD Folk

An all-General Dynamics gem show will be held April 10-11 to display collections and lapidary work of all Convair Rockhounds.

The public is invited to view exhibits, 10 a.m. to 10 p.m., Saturday, and 10 a.m. to 6 p.m. Sunday in the Kearny Mesa Clubhouse auditorium.

Displays will include jewelry, minerals, crystals, fluorescent material, petrified wood, desert glass and novelties. There will be a "swap table."

Any GD employe is welcome to enter exhibits. Call Fred Baugh, ext. 1446, Plant 71, for information.

A Plant 71 club member, Ernie Twiss, has recently been elected president of the San Diego County of Gem and Mineral Clubs.

Next regular meeting of Convair Rockhounds will be Thursday (April 8), 7:30 p.m. at Gillespie Field Clubhouse.

Discounts Offered For Cinerama Film

Premiere San Diego showing of the first Cinerama motion picture ever made, "This Is Cinerama," can be viewed by General Dynamics people at discount price, through CRA arrangements.

GD night is April 14 at Cinerama Theater, 58th and University Ave.

Tickets, $2 for regular $2.50 seats, are on sale at: Kearny Mesa Clubhouse, Plant 71; Convair Plant 1 employe services, Bldg. 16; Rose Canyon, Virginia Cannon, ext. 265; Stromberg-Carlson and GD/Electronics employe services, Plant 1, Bldg. 51; Stromberg-Carlson Plant 2, Hancock St., Marianne between 1 and 4 p.m.

Rose Show Set For April 11

New species of roses introduced for the first time in 1965 will be in the limelight at Convair gardeners' Annual Spring Rose Show April 11, Co-commissioners Everett Henderson and Gene Zimmerman announced.

Ribbons will go to the best new single and best three to a stem hybrid tea and grandiflora blooms.

In addition, there are 34 other classes in the same division open for single, three to a stem, three mixed in a wide range of colors, six (any color); 11 classes for grandiflora, more than one to a stem; 9 for floribunda.

Other divisions are for design arrangements, bouquet arrangements, corsages, children's classes, 5-11 yrs., and 12-16.

Best of show will go to "queen of show" and top exhibit in each division.

Final arrangements for the yearly display will be firmed at the CRA Garden Club's April 7 meeting, 7:30 p.m., Floral Association Bldg., Balboa Park.

Convair and Douglas Trailerites Gather

Sixty-six trailerites from Convair and Douglas Aircraft Co. joined an annual get-together over the weekend of March 19-21 to celebrate CRA Road Runners' fifth anniversary.

Eight vehicles from Convair and 11 filled with Douglas Jetliners met for a full weekend at Doheny Village Trailer Park, Dana Point. Bingo, pool, swimming furnished a variety of entertainment. Part of the group went to San Juan Capistrano to see the parade marking the return of the swallows March 19.

CRA Commissioner Ralph East was wagonmaster for the Convair contingent.

Next CRA outing will be to the All-American Canal over the weekend of April 10-11. Howard French is in charge of arrangements.

Wives Offered Course In Cake Decorating

A beginners course in cake decorating will start the middle of April for Convair wives and their friends under expert instruction of Gil Hutter, Prophet Co. cafeteria manager at Plant 71.

Classes will be held Thursday afternoons, 1-3 p.m., over a period of 10 weeks. Over 300 ladies already have learned the fine points of cake decorating in six previous courses under Hutter's direction.

Information and reservations may be obtained through Georgia Hatfield, 273-2757.



DOZEN YEARS — GD/Pomona Convairiety Steppers celebrated 12th anniversary by hosting Astro Nauts from San Diego. Standing, left to right: Astro Nauts Commissioner Marty and Rosemary Stutz, Gladys and Steppers Commissioner Clyde Perry; Penny and Astro Nauts President Tom Robinette; Steppers Secretary Paul Robert; Jo and Bill Krause; Astro Secretary Chuck Wherry and Peg Rothacker. Front row: Dorothy Robert; Lucy and Steppers Commissioner Chet Wheeless, and Astro Nauts Treasurer Roy Rothacker.

Ski Deadline Extended For Mammoth Weekend

Deadline for signing for the CRA Snow Ski Club's trip to Mammoth Mt. this weekend has been extended throughout the rest of this week to give all General Dynamics people a chance to go.

Any Convair, GD/E, S-C employe or member of his family, whether a skier or not, is eligible to take part.

Reservations may be made by calling Bernie Paul at his home phone, 277-7162, before departure time Friday.

Accommodations are available to club members at $25 per person; $26 for non-members. This charge covers transportation, dorm lodging, two breakfasts, and shuttle service at Mammoth.

Travelers will depart Plant 71 at 5:30 p.m. Friday (April 2) by de luxe bus, fitted with radio, rest room, card tables, etc.

Club races will be held during the weekend and members and guests may compete in novice, intermediate, and advanced ski events.

First joint meeting of the combined Snow Ski Clubs will be next Tuesday (April 6), 7:30 p.m., Catamaran Hotel, Mission Bay. Entertainment will include four ski movies and free refreshments.

Young Rider Takes Honors

Bruce Williamson, 18-year-old son of Pauline Williamson, won high-point trophy of the day on his horse Domino at Convair Plant 71 Riding Club's March 21 fun show.

He also garnered four first-place blue ribbons in events at the CRA ring on Kearny Mesa.

At least 40 horses were put through their paces in 10 classes during the all-day show and spectators filled the stands to view horsemanship events.

Next Riding Club gymkhana is set for Saturday, April 17. It will be open to all Convair, GD/E, S-C riders at 50 cents entry fee per class. A special class will be listed for children in the 6-11 age group, said Bud Donahoo, show manager.

A special invitation has been extended to Escondido Valley Riding Club and Poway Valley Riders.

First joint meeting of Plant 1 and Plant 71 Riding Clubs will be April 14, 7:30 p.m., in the Kearny Mesa Clubhouse. Regular monthly meetings of the combined CRA group will be held second Wednesday of each month.

Convair Will Field Tournament Team

Convair's entry in City League basketball competition has been invited to play in the El Cajon Valley Invitational Summer League which opens soon after the first of the month.

All players from any Convair plant, GD/E, and Stromberg-Carlson are eligible to play if they can make the grade. League competition is at college team level.

Anyone interested is asked to call Hank Fuller, ext. 1789, Plant 71.

Here's Salvage Yard Schedule For April

Alternating Saturday morning schedule for GD employe sales at Convair Plant 71 and Plant 1 salvage yards for the coming four weeks is:

Plant 71—April 3, 17.
Plant 1—April 10, 24.

Atomic Girl Golfers Are 'One, Two, Three'

Three General Atomic girls took top places in the March links tourney of the General Dynamics Women's Golf Club.

The monthly match, rained out March 13, was played the following Saturday over Cottonwood course.

Top trophy went to Joan Green. Jean Mishall was runner-up and Rachel Hackney, third. All work at General Atomic division.

Iris Oster of Convair won fourth.

Next match will be April 10 at Tecalote Canyon course in the Clairemont area. Election of officers will follow play.

All General Dynamics women interested in participating may contact Gloria Schneider, GD/E, ext. 1757, Plant 1.

SOFTBALL UMPIRE CLASSES TO BEGIN

Aspiring softball umpires will meet tonight (March 31) at 7 p.m. in Room A, Kearny Mesa Clubhouse, for the first in a series of four classes. Anyone interested is welcome, said Pete Beyrer of CRA, who will instruct. Students will start actual umpiring soon.

Last Kegler Call! Deadline April 10

Last call is out for GD keglers wishing to compete in the 24th annual CRA plant bowling championship.

Deadline date for entries is April 10.

The championship tourney will be held over the weekends of April 24-25 and May 1-2 at Pacific Recreation.

Entry forms are on hand at Kearny Mesa Clubhouse, Plant 71; employe services, Plant 1; and at Pacific Rec.

CRA Calendar

(Convair Recreation Association has some 40 activities in operation for Convair, GD/Electronics, Stromberg-Carlson employes at all San Diego locations. For information call CRA Headquarters, Kearny Mesa, Plant 71, ext. 1111.)

★ ★ ★

AEROMODELERS — Flying sessions Saturday and Sunday, 8 a.m.-1 p.m., Clairemont Mesa flying site.

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Entries close April 10 for CRA plant championship tourney, April 24-25, May 1-2, Pacific Rec. Register at Kearny Mesa Clubhouse or Plant 1 employe services.

CAMERA CLUB — Meeting April 4, 7:30 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m. and 7-11 p.m., Kearny Mesa Clubhouse.

FENCING—Workouts and instruction Fridays, 7-10 p.m., YWCA, 10th & C Sts.

FISHING CLUB — Field trip for all GD anglers to Salton Sea, April 9-11.

GARDEN CLUB — Meeting April 7, 7:30 p.m., Floral Association Bldg. Annual Rose Show April 11.

GUN CLUB—CRA club shoot April 4, Gillespie Field Range.

MOVIES—Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot April 11, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Plant 1-71 meeting April 7, 7:30 p.m., Kearny Mesa Clubhouse.

RIDING CLUB — Joint Plant 1-71 club meeting April 14, 7:30 p.m., Kearny Mesa Clubhouse. Fun show, CRA ring, April 17.

ROAD RUNNERS — Weekend outing to All-American Canal weekend of April 9-11.

ROCKHOUNDS — Combined CRA club meeting April 8, 7:30 p.m., Gillespie Field Clubhouse. Gem and mineral show, Kearny Mesa Clubhouse auditorium April 10-11.

SCULPTURE — Workshop instruction Monday evenings, 7:30 p.m., Kearny Mesa Clubhouse. Call ext. 1111, Plant 71, for information.

SNOW SKI—Weekend trip to Mammoth Mt. April 2-4. Call Bernie Paul, 277-7162 for reservations. Club meeting April 6, 7:30 p.m., Catamaran Hotel, Mission Bay.

SPORTS CAR CLUB — Joint club meeting April 7, Convair executive dining room, Pacific Hwy., 7:30 p.m.

TROPICAL FISH — Meeting April 12, 7:30 p.m., Room C, Kearny Mesa Clubhouse. Call Dick Rowe, ext. 2105/2193, Plant 71, for information on workshop sessions.

WIVES CLUB—Cake decorating classes start in mid-April, Thursdays, 1-3 p.m., Kearny Mesa Clubhouse. Call Georgia Hatfield, 273-2757.

Radio Clubs Slate First Joint Meeting

Combined Plant 1 and Plant 71 Radio Clubs will hold the first joint meeting April 7, 7:30 p.m., in the Kearny Mesa Clubhouse to discuss election plans and coming activities.

Both club calls and locations will be maintained—K6DBS, Harbor Drive, and W6UUS, Kearny Mesa.

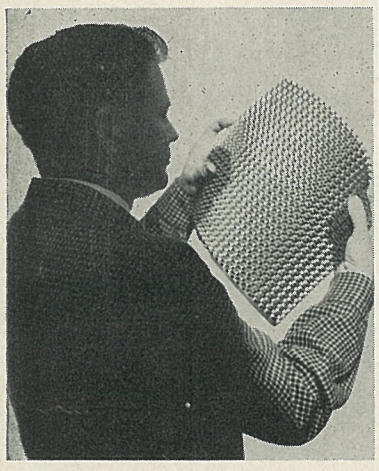
The Plant 71 group recently qualified for membership in the American Radio Relay League with charter of affiliation presented at its last meeting by Ray Myers (W6MLZ), former director of ARRL Southwest Division.

Italians Tried It

New Brazing Process Patent Recalls Italian Test of '78

Underwater explosion tests by the Italian Navy in 1878 and GD/Fort Worth's newly patented vacuum brazing process—what do they have in common?

Plenty, according to imaginative Don Cole, Dept. 23 manufacturing research engineer, who holds the patent for the new process.



IT BENDS—Pliability of double reverse corrugated core, used in high strength panels, is demonstrated by Inventor Don Cole.

"A collapsible diaphragm was used by the Italians to measure effects of underwater explosions on ship hulls," Cole said. "We used roughly the same principle in the vacuum brazing process.

"A collapsible box system is built up around the piece to be brazed. This affords even pressure and provides a clean atmosphere. Heat treatment and quenching can also be done while the piece is under vacuum."

Using an outmoded Navy experiment as basis for a device to make modern airplane parts is part of the "association technique" used by Cole in coming up with new ideas. The technique has been highly successful.

Cole has been either patentee or co-patentee on a half dozen timely inventions at GD/FW over the past few years. In addition, he has submitted scores of ideas which, though workable, weren't pursued vigorously because of their limited application to current contracts.

Association of ideas, according to Cole, undergirds virtually all invention.

"There are very few absolutely new ideas," he said. "Most inventions are a combination of existing ideas. Thus in reading and researching, I try to consider an idea not only in context, but as it might work in some other circumstance."

Many of Cole's ideas have evolved along pre-designed lines. Two, for example, involve the principle of high-energy release rate: electro-hydraulic forming and explosive forming.

The former uses energy from powerful electrical discharges to shape metal parts quickly into difficult or unusual shapes.

Explosive forming uses the same idea—and a powerful explosive like dynamite—in forming such parts.

Cole admits that the proverbial "accident" plays a part in some inventions.

"For example, we used vacuum brazing at first simply to control atmosphere. But we got an unexpectedly even application of pressure. It's necessary to recognize these unusual results when they occur—and to take advantage of them."

Other ideas, according to Cole, "hit you over the head." His matrix chucking process is a case in point.

A device was needed to hold down delicate parts, such as honeycomb, during machining operations. Cole's idea: place the part in a container with water, which, when frozen, would hold the part fast.

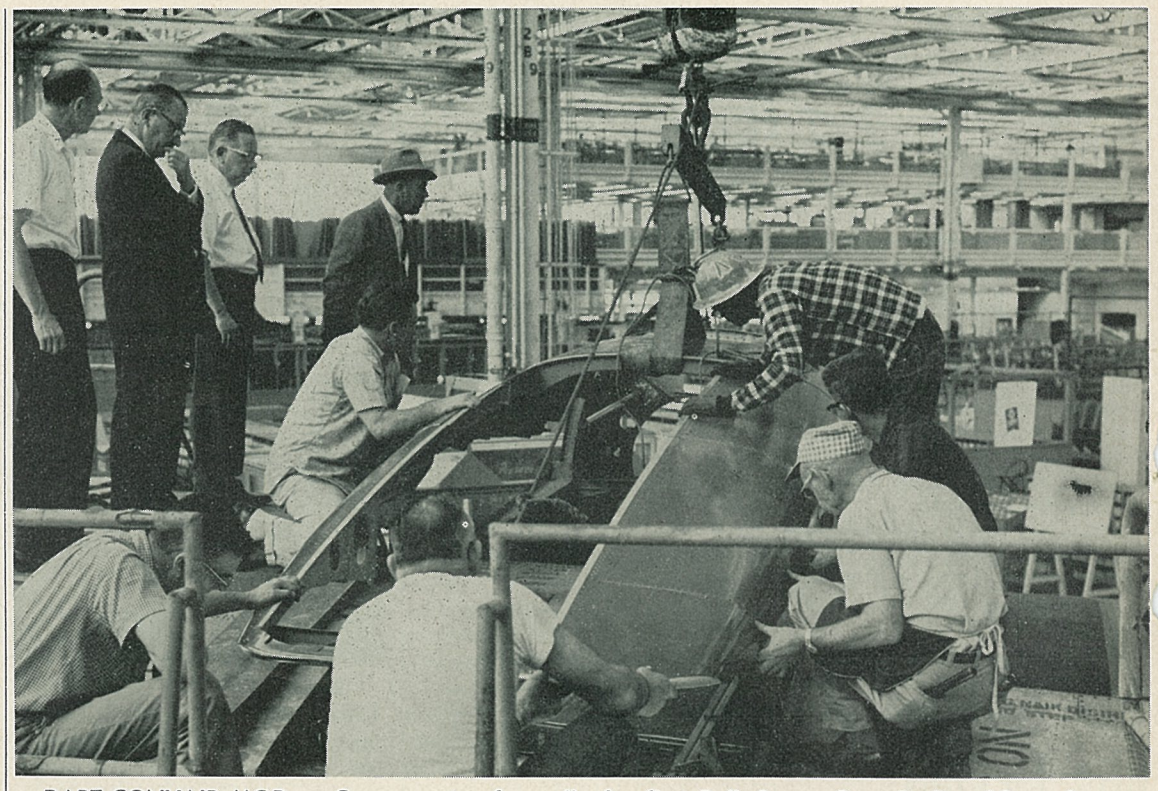
Other Cole inventions include:

Explosive welding—using extreme pressure forces to form a "true metallurgical bond" between normally incompatible metals such as titanium and steel.

Double Reverse Corrugated Core—a truss-type weldable core structure used in high-strength panels. Cole evolved this idea with Dick May, chief of manufacturing research at GD/FW.

Cole claims there is one other indispensable step in getting inventions secured: quick and thorough patent searches and legal action.

"Our patent department," he says, "is most expert and considerate in this respect."



DART-CONVAIR MOD — Components of nacelle for first Rolls-Royce Dart R. Da. 10 engine are installed on prototype Dart-Convair 240-D at GD/Convair in mid-March. Initial engine installation is slated by first of month.

'Buck Rogers' Vehicles Designed For Exploring Moon's Surface

If a moon explorer's transportation breaks down, he'll simply step inside a rocket-propelled flight vehicle and fly back to his home base.

But if the breakdown comes on a longer trip, he'll release the "bad connection" in his module caravan and continue on his way.

These are some of the "Buck Rogers-type" vehicles designed by GD/Fort Worth engineers in an operations and logistics study of the Lunar Exploration Systems for Apollo (LESA). The study was conducted for National Aeronautics and Space Administration.

Basically, engineers sought devices which would enable man to activate a base on the moon, perform routine operational chores, and explore the environment.

A moon explorer probably couldn't cover over four miles afoot in his cumbersome space suit. And conventional vehicles wouldn't work in the moon's temperatures (from minus 243 to plus 261 degrees Fahrenheit). In addition, explorers would have to guard against such perils as hard vacuum and radiation.

For relatively short trips (about 200 miles), engineers designed a two-axle, articulated chassis vehicle.

It is on the rear axle of this vehicle that the rocket-propelled flight vehicle is attached. It can hurtle two men through the air.

For longer missions, crew space and load-carrying capacity can be added by connecting a series of single axle, two-wheel modules in building-block fashion.

"As many modules may be added to the 'train' as needed to achieve ranges up to 2,000 miles or more," said E. L. Buckley, Dept. 61-3 engineer. "If a module won't function, it is simply dropped by the side and the train continues."

Equipment and accessories were also conceived for various construction tasks.

For example, there's a single-axle bull clam (a fork lift-type affair) which attaches to and draws power from the control module of the exploration vehicle.

It can be used for grading, collecting, transporting and placing soil—or for lifting and transporting supplies and equipment.

A series of small utility vehicles were also designed for use in the base area.

One such configuration places the operator in a pressurized capsule that can be positioned vertically to any desired working level.

Long arms, or manipulators mounted on the capsule give the operator remote capability for lifting, handling, and adjusting material and equipment.

"All vehicles in the group use electrically driven wheels and tires of spirally wound spring steel," Buckley said. "They react like a pneumatic tire, but need no inflation.

"Power is produced by fuel cells with batteries and radio isotope thermoelectric converters as auxiliary units. Thermal control and heat rejection is provided for by shielded or variable position radiators."

Results of the LESA study, under project manager E. G. Brooker, Dept. 61-1, will point the way to future efforts, and eventually result in exploration of the moon.

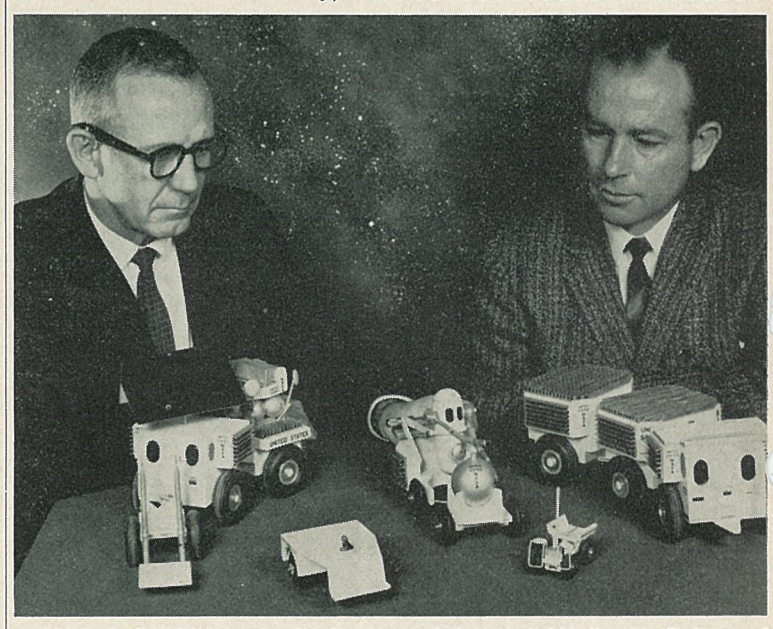
Equipment concepts, techniques for base activation and support of long duration base operations were under direction of Buckley. Wally McGuire, Dept. 61-3, was responsible for conceptual design of all vehicles.

Use Dayton Office's New Address, Please

General Dynamics' Dayton Office has moved to a new address:

Suite 236, 333 West First Street, Dayton, Ohio, 45402.

Fred deFrance, office manager, reports, however, that he is still receiving mail at the former address and appeals to all division personnel (as well as those outside the Company who may not have been notified) to use the correct address, thereby speeding up communications.



LUNAR TRAVEL — E. L. Buckley, left, and Wally McGuire, of GD/Fort Worth Dept. 61-3, demonstrate GD/FW-designed models of vehicles early moon explorers could use.

Rocket Experts Confer On Zero Gravity Effect

Twenty government and industry rocket experts met at GD/Convair this month to exchange information and ideas on methods of controlling the behavior of liquid fuels in zero gravity.

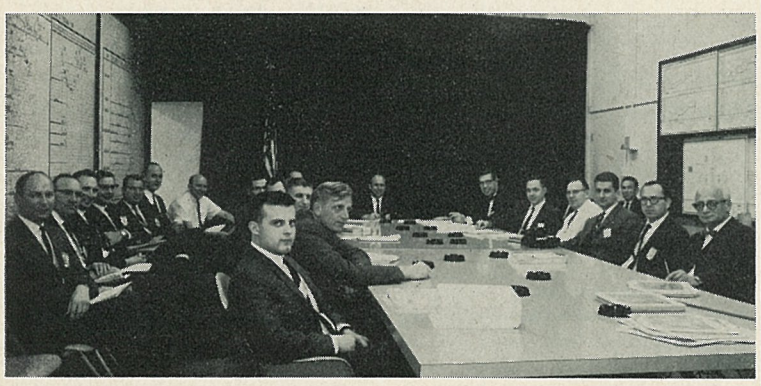
Representatives from National Aeronautics and Space Administration's Marshall Space Flight Center, Huntsville, Ala., and Lewis Research Center, Cleveland, Ohio, and Douglas Aircraft Co. met with their Convair hosts in the two-day workshop on zero gravity—weightlessness phenomenon of space flight—March 16-17.

Discussion centered particularly on the use and behavior of liquid hydrogen which will fuel the Centaur space vehicle being developed by Convair under direction of Lewis Research Center. Douglas is building the hydrogen-fueled S-4B upper stage of the Saturn rocket.

"We are pooling our knowledge of hydrogen and working toward solutions that will benefit all programs using that fuel," said Grant L. Hansen, Convair vice president and Centaur program director.

George C. Wilson, chief of Centaur thermodynamics, coordinated the Convair-sponsored conference.

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ZERO GRAVITY WORKSHOP — GD/Convair-sponsored conference March 16-17 brought together some 20 rocket experts from NASA and Douglas Aircraft Co. for discussion of methods of controlling behavior of liquid fuels in zero gravity.

Ehricke to Lecture At Space Institute

Krafft A. Ehricke, GD/Convair director of advanced studies, will lecture at the third in a series of meetings on Advanced Propulsion Systems for Space Application sponsored by American Institute of Aeronautics and Astronautics.

He will speak on "The Nuclear Pulse and Combination of Nuclear Solid Core, Solar Heat Exchanger, and Chemical Systems," April 6 in the AIAA Auditorium, Los Angeles, Calif.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

ROBERT S. DONALDSON (1960) from GD/Fort Worth to senior buyer, Electric Boat; **JOSE J. MARTINEZ** (1948) from GD/Convair to GD/Electronics-Rochester; **JACK RAYMOND CHAPIN** (1951) from Convair to Fort Worth manufacturing liaison; **GORDON B. McPHERSON** (1959) from Convair to Electronics-San Diego.

EDWARD M. WHALEN (1964) from Fort Worth to buyer, Electric Boat; **ROBERT M. PETERSON** (1963) from Convair to Stromberg-Carlson-SD; **DR. CARLO RIPARBELLI** (1955) from General Atomic to GD/Pomona; **JAMES E. RUTLEDGE** (1961) from Stromberg-Carlson-SD; to Fort Worth network planning.

GD

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 8 | PUBLISHED BY GENERAL DYNAMICS CORPORATION | Wednesday, April 14, 1965



SUN-CHASER — NASA's 990, which will carry scientists from all over world along 8,000-mile corridor across South Pacific to keep pace with May 30 solar eclipse, is caught in sunburst as it left GD/Convair plant at San Diego April 2 (two weeks ahead of schedule) for Moffett Field, adjacent to NASA's Ames Research Center, Calif. (Earlier story on page 8.)

$40 Million Order Calls For 28 More Standard Atlases

Twenty-eight additional standardized Atlas space launch vehicles (SLV-3s) and associated effort have been ordered for the nation's space programs during 1966 and 1967 under an Air Force contract announced this week.

The contract was awarded to Convair Division of General Dynamics by the Space Systems Division of the Air Force Systems Command.

Dollar value of the award is estimated at $40 million.

In addition to the 28 vehicles in the basic contract, the contract provides an option for four more.

"Both these contracts for the new SLV-3 evidence our continuing effort in cooperation with the Air Force to improve performance and maintain our high reliability record," C. S. Ames, vice president and program director - Atlas Space Launch Vehicles, said.

The SLV-3 is an improved version of the Atlas Space Launch vehicle used so successfully to launch four American astronauts into orbit for Project Mercury, to send spacecraft to Venus and Mars, and to launch the Ranger moon probe which returned the first close-up pictures of the lunar surface last July.

The Atlas SLV-3 is designed and produced exclusively for space missions. It uses plug-in electronic kits for telemetry guidance, tracking, autopilot, and electrical systems on a standard airframe or tank section.

Under this space launch vehicle production concept, only mission kits are changed when a particular vehicle's mission is switched. The entire vehicle does not have to be reworked to accommodate the new mission's requirements.

This means the Air Force and the National Aeronautics and Space Administration do not have to allocate a space mission to a particular Atlas SLV-3 until a few months before delivery, allowing for greater flexibility in scheduling flights for national space programs.

AF Systems Command Slates Award Program

The Air Force Systems Command has established a new U. S. Air Force awards program to recognize significant contractor Zero Defects-type accomplishments. Convair's Do Good Work program is one of the better known of these employe motivation concepts.

Air Force prime contractors will become eligible for three types of recognition: participation awards, semi-annual achievement awards, and annual craftsmanship awards.

The participation award will recognize employes who participate in a contractor-sponsored Zero Defects-type program which is within standards established by the Air Force. Minimum contractor requirements include ways to measure accomplishments and participation by 10 per cent of his plant personnel for 90 days or longer.

The achievement award will honor employes who have demonstrated significant achievement or improvement against contractor established goals on a semi-annual basis.

The annual craftsmanship award demands a combination of sustained performance and outstanding achievements in cost reduction and avoidance, product reliability, safety, reduction in workmanship errors, scrap, rework, and other areas which can be attributed directly to the Zero Defects-type program. To qualify for the craftsmanship award employes of a contractor must have received two achievement awards during a 12-month period.

Each of the three awards may be presented to all or a portion of the prime contractor's employes.

Air Force Plant Representatives will validate the data submitted by the contractor. They will also make recommendations for participation awards.

Air Force Systems Command will make the final determination for the achievement awards and the annual craftsmanship awards.

Wilkens Shifts To Electric Boat As IR Director

D. C. Wilkens Jr., veteran industrial relations executive and widely known throughout General Dynamics Corporation, is being transferred from Convair division to Electric Boat at Groton, Conn.



D. C. Wilkens

Effective April 26 he will become director of industrial relations for both Groton and Quincy yards.

A San Francisco native and graduate of Fresno State College, with post graduate study at California Institute of Technology, Wilkens joined the company in 1942 and two years later became wage and salary administrator at Convair's Vultee Field operation at Downey, Calif. He transferred back to San Diego in 1945 as chief of industrial relations and has continued in this post as manager and later director.

During the years he has been active in San Diego civic affairs, serving on a host of committees, including chairman of the AIA Industrial Relations Committee.

Mgt. Club Members Will Hear Schriever

Management Club members at all Convair plants have just another day to get their tickets for tomorrow's (April 15) joint meeting at El Cortez Hotel.

Gen. B. A. Schriever, Commander of Air Force Systems Command, will be speaker of the evening.

Social hour will be at 5:30 p.m. in the hotel's Caribbean Room, followed by dinner and program.

Dinner tickets still are on sale by Management Club Boosters at all plants.

Badge Changes Over by May 1

GD/Convair ID badges will be the same throughout the division by May 1.

By then, the new laminated yellow-background photo badges will replace the former disk-badges and ID cards used at Plant 1 and the existing badges at Plant 71.

The new badges identify the General Dynamics division; employe by number, name, and photo; employe's security clearance; whether employe is flat-salary or hourly, and if hourly, by shift. Department numbers do not appear on the identification badges, and supervision is not identified.

Convair employes should remember that their ID badges are issued to them for use within and between General Dynamics facilities and divisions only. Convair badges should not be used to cash checks, to open charge accounts, or other outside identification. Social security cards, drivers licenses, and credit cards should be used for these purposes.

Phone Switchboards On Same Schedule

Both the Plant 1 and Plant 71 telephone switchboards are now on the same schedule:

Monday through Friday 6 a.m. to 9 p.m.

Saturday 7 a.m. to 3:30 p.m.

Closed Sundays and holidays.



CRA SLATE—New officers chosen unanimously by reorganized Convair Recreation Association Council last week are (from left) Bud Davies, vice president; Gerry Wright, president; Evelyne Thrall, secretary; Cliff Kickbush Jr., treasurer.

Gerry Wright Elected To Head CRA Council

Gerry Wright heads a slate of competent recreation leaders elected to top offices in the newly-reorganized Convair Recreation Association Employes' Council at last week's kickoff meeting.

Other officers, approved unanimously by commissioners of activities, are: Bud Davies, vice president; Cliff Kickbush Jr., treasurer; and Evelyne Thrall, secretary.

Slate was presented for the Council's approval by a nominating committee composed of Ezra

(Continued on Page 7)

Atlas Boosts Nuclear Plant

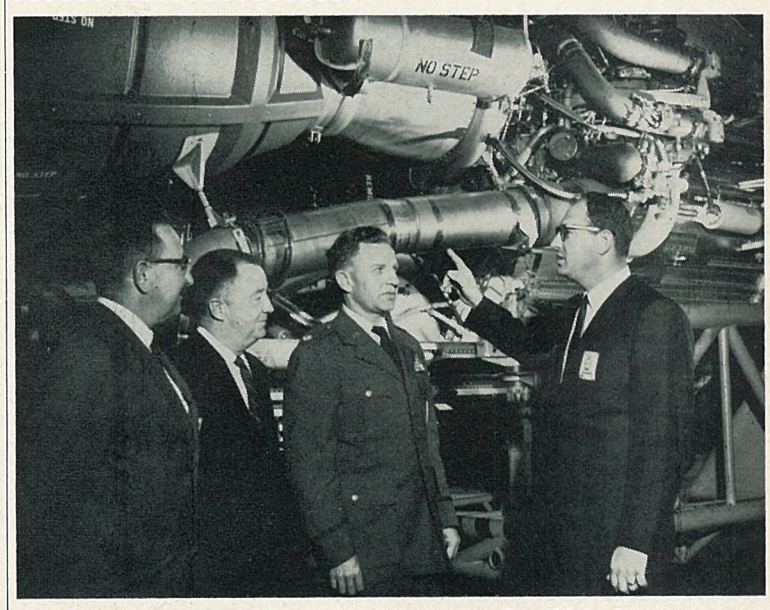
An Air Force Atlas SLV-3 (standardized launch vehicle-3) boosted America's first nuclear power plant designed for future space missions into orbit on April 4.

Launched by an Atlas-Agena from Western Test Range into a 700-mile polar orbit, the nuclear power plant and its ion engine are expected to remain in orbit for 3,500 years.

The experimental ion engine weighs only 2.2 pounds; its thrust is two thousandths of a pound. Similar engines will propel future space vehicles to planets such as Jupiter at 100,000 mph.

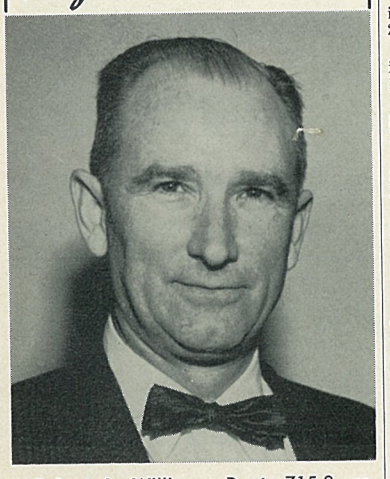
The Atlas SLV-3 incorporates the most reliable systems and components of previous versions of the Atlas, flight-proven in more than 230 launches.

Overall management of the Atlas SLV-3 program is in the Space Systems Division of the Air Force Systems Command.



AHEAD OF SCHEDULE — First Atlas launch vehicle for maneuverable ballistic re-entry vehicle (MBRV) program was delivered month ahead of schedule. GD/Convair program manager for overall advanced ballistic re-entry system (ABRES), Jay M. Farrar (far right) points out to J. C. Nemec, AFQC (far left), R. D. Raney, AFPRO, and Major L. A. Borsvold, BSD, that splendid Air Force cooperation with Convair made early delivery possible.

Log Book Entries



Robert L. Williams, Dept. 715-0, received 35-yr. service emblem from Convair President James R. Dempsey last month.

Retirements

CONVAIR

ALEX—Frederic R., Dept. 512-4. Seniority date July 1, 1957, retired March 26.

BAILEY—John R., Dept. 133. Seniority date Aug. 12, 1946, retired Dec. 15, 1964.

CHAMBERLIN—Fred L., Dept. 401. Seniority date Sept. 30, 1940, retired March 26.

EDINGER—Richard M., Dept. 812-1. Seniority date June 3, 1957, retired March 19.

EVERS—Donald W., Dept. 101. Seniority date May 2, 1940, retired Feb. 1.

JACKSON—Henry E., Dept. 250-1. Seniority date Jan. 4, 1956, retired March 22.

JOHNSON—E. T., Dept. 115. Seniority date Sept. 18, 1946, retired Feb. 5.

SALTER—James V., Dept. 25-1. Seniority date April 18, 1938, retired Feb. 26.

SCOTT—Walter, Dept. 758-0. Seniority date May 31, 1956, retired March 11.

SHELTON—Burton L., Dept. 975-4. Seniority date July 31, 1956, retired March 22.

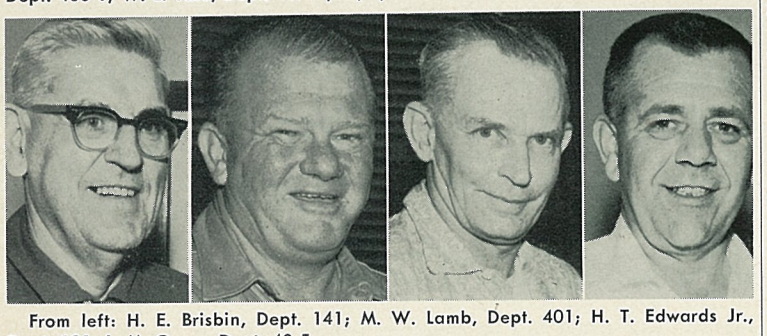
STARGELL—Guy L., Dept. 813-0. Seniority date Nov. 16, 1950, retired March 19.

STOECKER—Eddie, Dept. 833-3. Seniority date June 24, 1957, retired Nov. 25, 1964.

25-Year Men Recognized



From left: C. F. Blair, Dept. 100-0; T. F. Allen, Dept. 42-5; A. M. Van Horne, Dept. 400-1; W. L. Tate, Dept. 4073 (GD/E).



From left: H. E. Brisbin, Dept. 141; M. W. Lamb, Dept. 401; H. T. Edwards Jr., Dept. 101; L. M. Guess, Dept. 42-5.



From left: J. C. Chuckta, Dept. 759-0; H. E. Kobrich, Dept. 403-3; F. E. Rockey, Dept. 420-5; J. W. Hoerger, Dept. 832-1.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Plant 71. Three hours: Monday, May 3, 8-11 a.m., Room 6, Bldg. 17, Plant 71. Plant 1, ext. 491: one hour; First shift, Tues., April 27, 8-9 a.m., Auditorium, Bldg. 14. Second shift, Tues., April 20, 4:30-5:30 p.m., Auditorium, Bldg. 14.

PROFESSIONAL/TECHNICAL

DART ENGINE SYSTEMS — D. R. Maxion, ext. 491, Plant 1. Limited enrollment. Forty hours: daily, 7:30 a.m.-4 p.m., April 19-23. Customer training area, Bldg. 4, Plant 1.

SOLDERLESS CONNECTION & HARNESS FABRICATION & INSPECTION —Jim Hanratty, ext. 1931, Plant 71. Limited enrollment. Ten hours: daily, morning classes, 9-11 a.m.; afternoon classes, 1:30-3:30 p.m., weeks of April 12, 19, 26. Room 10, Bldg. 17, Plant 71.

PRODUCT IMPROVEMENT PROGRAM—Will Weidenfeller, ext. 1931, Plant 71. Limited enrollment. Four hours: daily, 7-8 a.m., operations conference room, Bldg. 5, Plant 71. Group 8: April 19, 20, 21, 22. Group 9: April 26, 27, 28, 29.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Plant 71. Weekly, 7 a.m.-3:45 p.m., Room 4, Bldg. 17, Plant 71.

AFTER HOURS TRAINING IN-PLANT

FORTRAN for ENGINEERS — IBM staff, ext. 1494, Plant 1. Limited enrollment. Thirty-two hours, Tues. and Thurs., 5-7 p.m., April 7-May 27. Room 6, Bldg. 17, Plant 71.

NON-DESTRUCTIVE TESTING — D. C. Ryle, ext. 1767, Plant 71. Co-sponsored by Society for Non-Destructive Testing. Tuition, $35. Total, 72 hours. Part I: Classroom, 48 hrs., Thursdays, 6:30-9:30 p.m., Plant 1, Bldg. 14, Auditorium, March 4-June 17. Part II: Workshop, 24 hours, Tuesdays & Wednesdays, 6:30-9:30 p.m., Plant 1 shop area, May 11-June 3.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Plant 71 (Kearny Mesa) Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Plant 1, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Invention Disclosures

CONVAIR

DuBRUL—D. W., Dept. 986-2. Spacecraft Sterilization Envelope.

GOODING—T. J., Dept. 596-0. A New Method of Construction for Energy Storage Capacitors.

LEADON—B. M., W. H. GALLAHER, both Dept. 596-0, and W. V. CARTER, Dept. 511-1. An Injection-Interaction Thermal-Attitude Control System for Random-Roll Hypersonic Entry Vehicles.

STEPHENS—P. B., Dept. 583-0. Internal Insulation.

VOLLMER—G. R. Jr., Dept. 422-1. Radiographic and Microscopic Inspection Device.

Personals

CONVAIR

The family of Ann M. Eichmann wish to express their deepest appreciation for the many condolences received at the time of their recent loss.

R. W. Eichmann, Dept. 654-3.

* * *

We are deeply grateful to Convair friends for the many acts of kindness and sympathy, for the beautiful flowers, the money tree, and the contributions to the Blood Bank during the illness and passing of our beloved husband and father, Philip Templeman (retired).

Mrs. Nellie Templeman and daughter, Mrs. Beverly Plant.

Births

CONVAIR

ARGROW—Daughter, Marilyn Sue, 6 lbs., born Feb. 13 to Mr. and Mrs. Herbert W. Argrow, Dept. 250-4.

FRENCH—Daughter, Mimi, adopted March 29 by Mr. and Mrs. Marvin L. French, Dept. 381-2.

GASSMAN—Daughter, Sherron Nadine, 8 lbs., 4 oz., born March 3 to Mr. and Mrs. Norman M. Gassman, Dept. 652-1.

KETCHUM—Son, Brian John, 7 lbs., 13 oz., born March 16 to Mr. and Mrs. William Ketchum, Dept. 662-6.

WILSON—Son, Bruce Allan, 8 lbs., 10 oz., born April 2 to Mr. and Mrs. Allan N. Wilson, Dept. 591-4.

Deaths

CONVAIR

COLLINS—John E., Dept. 220-4. Died April 1. Survived by wife, Gladys Lois; daughter, Cindy; two sons, John S. and Merrill; and mother.

MACKLEY — John R., Dept. 99. Died March 29. Survived by wife, Anne B.

VANDENBERG AFB

WARE—Albert S., Dept. 576-1. Killed in automobile accident March 26. Survived by wife, Luella Catherine, and daughter, Mary Catherine.

Officers End Coast Tour at Convair Plant

Twenty-six Air Force officers participating in the Education-With-Industry program ended their tour of West Coast industries at GD/Convair's Plant 71 April 9. This was the third annual two-week visit which takes the officers to the plants of each of the companies cooperating with the Air Force Institute of Technology in the education program.

During their one-day visit to Plant 71, the officers were given an informal look at the management and hardware of a space age industry.

The officers received briefings by J. A. Croft, Col. M. K. Andresen (AFPRO at Convair), Ray T. Blair Jr., D. W. Suchecki, R. L. Forrest, P. M. Prophett, and Dr. H. F. Dunholter. Briefings covered the organization of General Dynamics Corporation and the Convair division, and the product areas of standard launch vehicles, Centaur, aircraft programs, and manned space vehicles.

The officers participated in a question and answer period with a management panel consisting of E. G. Hill, C. W. Frick, P. D. Ferrara, Dunholter, with Blair as moderator.

Air Force officers selected for training in the Education-With-Industry program are stationed for one academic year at a plant of a cooperating company.

Captains Ronald Bulmer and Dominic Chilbert are stationed at Convair with the AF education program.

CONTRACT COVERS WORK WITH 'FLOX'

Contracts totaling $500,000 have been awarded GD/Convair by National Aeronautics and Space Administration (NASA) for continued work with the new high energy rocket propellant called FLOX.

FLOX is a mixture of liquid fluorine and liquid oxygen. Used as a fuel oxidizer for Atlas space launch vehicles, it would give Atlas rocket engines more energy and therefore more weight lifting power.

Research at Convair indicates that with minor changes to Atlas systems, FLOX can be used with the Atlas.

The FLOX test program is under direction of NASA's Lewis Research Center, Cleveland, Ohio.

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.

Service Emblems

CONVAIR

Service emblems due during the period April 1 through April 15.

Twenty-five-year: Dept. 6-31, A. J. Lux; Dept. 102, H. H. Frein; Dept. 131, G. V. Kobets; Dept. 143, T. A. Bessey, T. W. Brotherton Jr.; Dept. 403-3, H. E. Kobrich; Dept. 420-5, F. E. Rockey; Dept. 756-0, A. G. Johnson; Dept. 832-1, J. W. Hoerger; Dept. 964-3, S. C. Southerland.

Twenty-year: Dept. 6-05, H. L. Evans; Dept. 14-6, Jewel L. Hilton; Dept. 101-6, Velma D. Smith; Dept. 102, J. R. McDonald Jr.; Dept. 141-2, Floy C. Allen; Dept. 147-3, P. C. Nelli; Dept. 171, R. R. Fargo; Dept. 4-5, H. A. Cowell, A. W. Pisarchik; Dept. 526-8, M. W. McCreary; Dept. 759-0, A. J. Novello; Dept. 971-5, N. L. Smith.

Fifteen-year: Dept. 6, D. H. DeMarce, G. L. Droke; Dept. 115, Lois R. Gibbs; Dept. 195-2, J. A. May; Dept. 452-0, E. B. Denton Jr.; Dept. 522-6, F. W. Reed Jr.; Dept. 641-0, A. C. King.

Ten-year: Dept. 6-22, F. J. Morgan; Dept. 15-0, R. H. Gill; Dept. 26-1, Eloise E. Dyer; Dept. 101-2, C. D. Dismuke; Dept. 142-2, R. G. Roscoe; Dept. 250-3, H. C. Armstrong, R. F. Bucy, K. J. Jackson; Dept. 401-5, N. D. Ingram; Dept. 525-6, R. J. Wadginski; Dept. 558-3, Lloyd Board; Dept. 564-4, J. D. Peterson.

Dept. 663-7, C. J. Clark Jr.; Dept. 684-5, R. H. Huber; Dept. 691-2, R. P. Kraus; Dept. 718-0, Frank Byle Sr.; Dept. 731-0, R. W. Nelson; Dept. 733-0, Richard Hull; Dept. 811-0, J. L. Scully; Dept. 963-3, B. J. Dunn; Dept. 966-8, F. W. Chapman Jr.; Dept. 967, R. E. Cree, A. T. Wells; Dept. 970-1, Priscilla H. Willingham; Dept. 978-1, A. B. Carlson; Dept. 986-2, H. J. Hall.

ELECTRONICS

Twenty-five-year: Dept. 4072, H. W. Schuster.

Fifteen-year: Dept. 5078, Clarinda W. Teegarden.

Ten-year: Dept. 4076, M. W. Berwald; Dept. 6855, C. K. Rutledge.

STROMBERG-CARLSON

Ten-year: Dept. 8670, J. E. McMorrow.



COMPARE VIEWS — T. L. Lamoureux Jr., far left, GD/Convair Dept. 142 supervisor of calibration, explains program to calibration conference members. Shown are E. E. Pear, Plant 71; D. A. Munck, WTR; H. J. Quick, Sycamore Test Site; J. L. King, ETR; J. H. Stokes, ETR; and G. A. Senn, Plant 71.

Contrasting Views Encouraged At GD Calibration Conference

GD/Convair's 1965 calibration conference was held at Plant 71. The three-day meeting was hosted by the calibration engineering function of the standards and calibration laboratory.

Convair men from Eastern and Western Test Ranges, Sycamore Test Site, and Plant 71 attended.

Believing that differing viewpoints would stimulate discussion and aid conference members to gain a deeper insight into calibration philosophy and methods, T. L. Lamoureux Jr., calibration supervisor, brought together 10 speakers with contrasting views.

Topics and speakers included automated recall system, C. J. Bass; calibration documentation, G. N. Elgin; test equipment history system, J. D. Stevens; test equipment updating, J. A. Walz; philosophy and advantages of in-place calibrations, J. C. Tate; test equipment interval control, E. G. Sweet, and philosophy of calibration, A. J. Woodington.



$35,537 SAVED — D. J. Murphy, second from left, of GD/Convair's Dept. 830, receives certificate of commendation for value control suggestion which saved $35,537. F. D. Robbins, far left, manager of material operations, presents certificate. On hand for award are R. T. Mulroy, Dept. 400 and T. F. McAleer, Dept. 830.

Scrap Heap Cheated of Parts As Servo Actuators Reworked

D. J. Murphy of GD/Convair's Dept. 830 is given credit for a value control saving of $35,537. He was awarded a certificate of commendation by F. D. Robbins, manager of material operations.

This is Dept. 830's first value engineering project of 1965.

The saving was made possible when Murphy learned that 29 servo actuator assemblies were to be scrapped because they were surplus to the Atlas weapon system requirements. Murphy, who attended one of Convair's value control seminars, believed the pieces could be reworked to another configuration and used on the Atlas standard launch vehicle.

He took his idea to R. T. Mulroy, a tool engineer in Dept. 400, and the two of them did a value engineering analysis which confirmed Murphy's plan.

Engineering issued the authorization necessary to rework the actuators.

This is but one sample of value control at work. During 1964, value engineering techniques saved the division over $4 million.

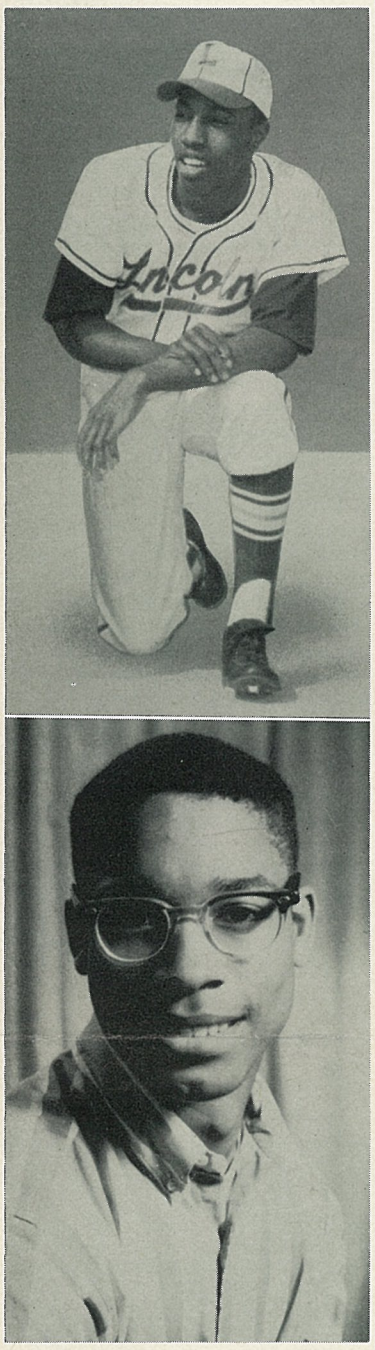


MONEY SAVED — Cash on table represents savings of more than one half million dollars to GD/Convair at Cape Kennedy. Savings were counted in cost reduction program. T. J. O'Malley, seated left, representing B. G. MacNabb, Convair director of operations, presented certificates to participants. Seated left from O'Malley are Tom Henry, Tom O'Brien, M. W. Talbert, and E. L. Johnson Jr., executive vice president of Cocoa Beach State Bank which supplied money in photo. Standing, left to right, are Bob Goldinger, John Mazza, Jack Robinson, Ash Hough, Fred Jossi, Jim Kettring, and Kelly Loynes. Participants absent from photo are Ray Kerr, Don Larson, Dick Jaeger, Frank Waitkus, and L. D. Messacar.

Negro Youths From Dallas and L. A. Earn General Dynamics Scholarships

Two General Dynamics Achievement Scholarships have been awarded to Negro youths from Dallas and Los Angeles.

The university scholarships sponsored by General Dynamics, under the National Achievement Scholarship program for outstanding Negro students, were won and accepted by Dennis McRay Young, 2926 Southland Street, Dallas, and Philip H. Henderson, 213 East 14th Street, Los Angeles.



SCHOLARS—Top photo, Dennis McRay Young; below, Philip H. Henderson. Young, who will attend M.I.T. on General Dynamics scholarship, is current Honor Society president at Lincoln High in Dallas, has won many academic honors and is athlete as well. Henderson, who will attend U.C.L.A. on GD scholarship, also has earned many honors, particularly in science and math, and before he graduated at conclusion of fall semester at John C. Fremont High, Los Angeles, was president of senior class.

Young will attend Massachusetts Institute of Technology and Henderson will go to the University of California at Los Angeles. They are completing high school this year.

The General Dynamics scholarships are granted to boys whose homes are in communities where the Corporation has major operations and who plan careers in business. The awards are part of the Corporate "Plans for Progress" program, designed to insure equal employment opportunities for all and to stimulate interest in business careers among members of minority groups.

Young and Henderson are among 225 students from 33 states and the District of Columbia receiving four-year scholarships in the National Achievement Scholarship program's first year of operation. The scholarships are worth $1,000 each and may be increased, according to need, to as much as $6,000.

Candidates can be nominated only by their secondary school officials. The organization states: "National Achievement seeks the best Negro students, rich or poor, from anywhere in America."

GD/FW Engineers Discover Lubricant of Long Wear Life

After about a year of looking, four GD/Fort Worth engineers have found the proverbial "silver lining."

The lining is a solid-film lubricant called Dyna-Lube. It is a five-inch-wide band which rims the pivot pins of the F-111's variable-sweep wings. It is also used on the F-111 spoilers and in a few other areas.

Dyna-Lube is made mostly of silver, with a relatively small portion of rhenium. The latter is a rare metal with the second highest melting point (5,740 degrees F.) of any metal. Only tungsten has a higher melting point.

Inventors of Dyna-Lube are four GD/FW engineers: Earl W. Turns, John W. Head and H. C. Hoffman, Dept. 65-2; and Art C. Porter, Dept. 263-6.

"We started our investigation of Dyna-Lube about a year before the requirement on the F-111 pivot pin became known," Turns said. "Fortunately, our timing proved just right."

The pivot-pin requirement was for a lubricant of "unheard of" wear life.

"We also needed a film with surface characteristics to help keep regular lubricants intact," Turns said. "Dyna-Lube has this quality."

Actually, Dyna-Lube serves as a back-up for the regular lubricant used in the wing carry-through pivot point.

"The need for such lubricants will probably increase as planes and missiles enter higher speed regimes," Turns said. "Grease and other ordinary lubricants start breaking up at temperatures above 350 degrees F."

Dyna-Lube is made by alloy electroplating of silver and rhenium from cyanide-alkali solutions.

A decurrent is applied across the solution, and the silver-rhenium is electroplated onto a part in metallic form.

Since Dyna-Lube is the only electrically conductive lubricant known, it has potential uses in electrical connectors and any type of sliding electrical device.

It may be used as a high temperature anti-seize material for fasteners. Ultimately, Dyna-Lube may be used as a single high-temperature lubricant for the minus-100-degrees F. to plus 1,200-degree F. range.

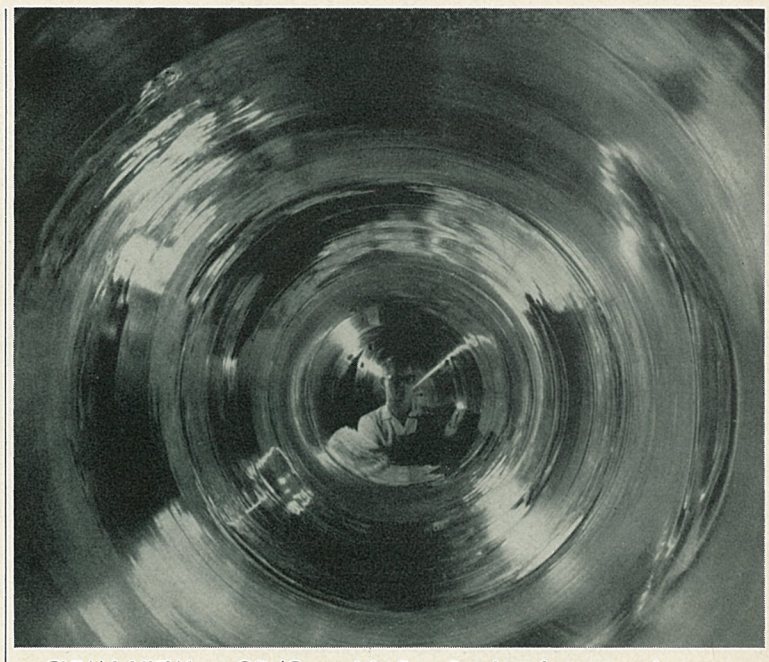
MARINER 4 PASSES MARS MIDWAY MARK

Mariner 4, which was boosted on its way to Mars by Atlas 288-D and an Agena on Nov. 28, 1964, has passed the midway point of its 288-day journey.

On March 22 Mariner 4 had transmitted more that 160 million bits of engineering and scientific information about interplanetary space.

On March 31 at 9 a.m., Mariner 4 was 43,479,864 miles from the earth, traveling 32,016 mph relative to the earth.

The Atlas-launched spacecraft will make its closest approach to Mars July 14 at about 5,700 miles from the planet.



CLEAN VIEW — GD/Convair's Roy Bartle of space science section at Plant 1 looks down portion of Convair's 55-foot shock tube, said to be "longest and cleanest" in world. Tube is used to gather "yardstick" data on gases in atmospheres of other planets.

'Longest, Cleanest' Shock Tube Reproduces Planet Conditions

Klaus Sulzmann, Roy Bartle, and Dr. Carmine Ferriso, scientists in GD/Convair's space sciences section, are using a 24-in. diameter, 55-ft. long shock tube for studies of gases surrounding other planets of the solar system.

Purpose of the studies is to provide other scientists, sending space probes through atmospheres of planets, with a check against data obtained with those space probes.

The Convair scientists say their shock tube is the longest and "cleanest" in the world. Extreme cleanliness is required so that when a new uncontaminated gas is put into the tube and a shock wave sent down its length at speeds up to 6,800 mph, observers can be sure they are looking at a pure gas (heated up to 20,000 degrees F.) and not one with impurities and moisture.

At sea level, gas molecules are packed so closely together that they collide after traveling a distance about 100 times smaller than the width of a human hair.

In the atmosphere the Convair scientists are studying, the gas can be so rarified that the distance between "collisions" may be miles.

By removing air and moisture from the tube, scientists initially achieve the equivalent of a 300-mile altitude. There the average distance betwen collisions of molecules is 3.1 miles.

Safety Standings

Division achieving best record:

Current month (February). Convair, Pomona, Electro Dynamic all 0.00 for frequency and severity.

Year to date: (1) Pomona, (2) Electro Dynamic, (3) Convair.

Division showing best improvement:

(1) Pomona, (2) Electro Dynamic, (3) Convair.

Family Doctor

Let's Talk Prices and Be Friends

(EDITOR'S NOTE: The following column, syndicated by Bell-McClure, is being republished by GD/NEWS by permission. The column contains good advice. General Dynamics group insurance is among the most comprehensive in industry, but even so it does not always cover the entire cost of an illness or injury. It is the wise employe who inquires in advance.)

BY DR. PETER J. STEINCROHN

You are hungry. You go into a restaurant for dinner. If you are average (living within some sort of realistic budget) you will pick up the menu, and not make your decision without looking at the price column.

Will it be sirloin? Will it be the fish dinner? You are all for sirloin, but your wife convinces you that mackerel is in season. "Besides, it'll make a difference of $5. That's enough for a down payment on a new toaster."

You finish your dinner. Comes the check, which is no surprise. You pay it and that's that. There's no hostility.

I wish the same procedure were followed in the relationship between doctor and patient. Too often has a friendly association turned into a bitter, acrimonious dissension. The patient who blesses his doctor for having saved his life, often turns on him after the first of the month. Bills are harder to swallow than pills — if they come as a complete surprise.

The fault is the patient's more than the doctor's. I have talked to many colleagues who have said they'd like to discuss fees with patients. But they do not do so because they are afraid they will be considered mercenary, bringing up the subject of money.

They tell me they are thankful when a patient asks, "About how much will this cost?" The patient then knows what he is in for financially. When he gets his bill he does not feel like tearing his doctor apart.

You check on restaurant prices. You look at a price tag on a new suit before buying. You shop for a new car. Well, health is the number one of all commodities. You should come out with it: ask your doctor, "About how much will it cost?"

Of course, in an emergency, there's no time for economic riddles. When a member of the family is down with a sudden coronary attack or needs to be rushed in for an appendectomy, you don't sit down with your doctor and talk price.

However, most relations between patient and physician are not on an emergency basis. You may know months ahead that you are going to have such operations as hernia, gall bladder, hysterectomy. You may know that you are going to have a series of X-ray treatments. You may know that you need to have diagnostic X-rays, electrocardiograms and numerous laboratory tests.

It makes good sense, and your doctor will agree, for you to look at the probable costs. Many a young married couple prefers to engage a $250 obstetrician than to be presented a bill for $750 which they do not expect.

There's no shame in asking. You will be happier knowing the approximate costs. When the bill comes you are less likely to develop "post-convalescence shock." Besides, chances are greater that you and your doctor will remain good friends.



SOUND BASIS—Dr. A. J. Bellanca, Convair division chief plant physician, agrees it's good idea to ask doctors about prices.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

VERNON R. HAMPSTEN (1955) from Convair to Electronics (San Diego); **ALBERT K. COX** (1960) from Convair to purchasing, Electronics (Rochester); **PAUL C. SHERETZ** (1962) from Convair to Stromberg-Carlson (San Diego); **DONALD A. HARRIS JR.** (1962) from Convair to Electronics (San Diego).

ALBIE A. LYMAN JR. (1958) from Electric Boat to Corporate Headquarters as Los Angeles representative; **WARREN EVERDING** (1956) from Convair to industrial relations, Electronics (Rochester); **HOWARD M. CORTNER** (1962) from Convair to Electronics (San Diego); **THEODORE R. MacCONNELL** (1961) from Convair to procurement engineer, Electric Boat.

CHARLES K. KEACH (1960) from Convair to Electronics (San Diego); **WILLIAM E. STEWART** (1953) from Convair to Electric Boat; **JACQUE E. BOURNIQUE** (1962) from Convair to Electronics (San Diego); **JOHN MURRAY** (1961) from Convair to Electronics (San Diego); **JAMES P. SYREN** (1942) from Stromberg-Carlson (San Diego) to senior contracts representative, Electric Boat.

JAMES F. HARRISON (1962) from Convair to Electronics (San Diego); **JAY R. COLVIN** (1963) from Convair to industrial relations, Electronics-R; **HENRY W. BLACKSTONE** (1964) from Convair to Electronics (San Diego); **RICHARD G. HALL** (1947) from Pomona to Fort Worth F-111 flight test (Edwards AFB); **GEORGE F. HOBBS** (1963) and **ROBERT T. LEIGH** (1959) from Convair to Electronics (San Diego).





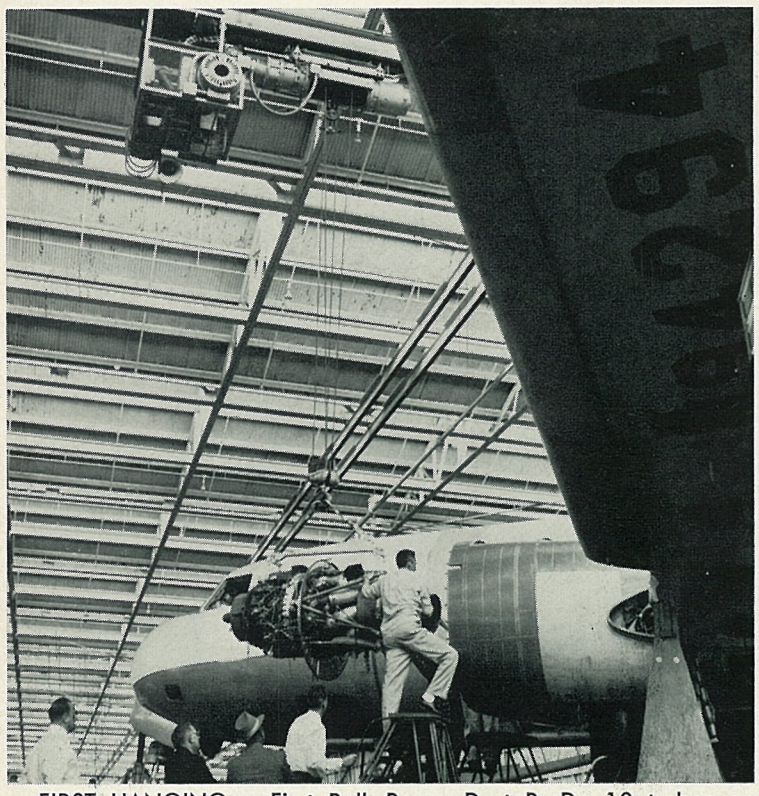
OFFSITE CRAFTSMEN — Shown at right are Convair's "Craftsmen of Month" for February at Cape Kennedy — members of Dept. 681-3, SLV Launch Operations. Quality index of 118.3 made group winner for second consecutive month. Site Foreman K. S. Taylor accepted Craftsmanship award from B. G. MacNabb, base operations manager. Site crew for 576-18 launch complex won February Craftsmanship award at VAFB. In photo at left, D. L. Fagan, director of operations, (left) presented award to A. H. Hoines, site manager (right). C. A. Johnston, chief engineer is in center.



HIGH-LEVEL PARLEY — Representatives from many of GD's far-flung divisions attended GD Panel on Reliability and Quality Control at Fort Worth Division in February.



EASY WAY — D. L. David, GD/Convair Dept. 691-2, left, and G. D. Cooper, Dept. 591-4, demonstrate "thermal analyzer" unit assembled at GD/Convair for use in studies by simulating heat flow in SLV-3 aft heat shield. Thermal analog meter, right, permits measurements on geometry of resistor matrix, left. Voltage probe "maps" resistance pattern, which is then interpreted in terms of temperature field. Technique is simple, reliable for simple heat flow studies; saves programming and computer time.



FIRST HANGING — First Rolls-Royce Dart R. Da 10 turboprop engine, which will power Dart-Convair 240Ds, is hung on prototype now being converted to up-dated version at GD/Convair.

Explorers Gird Themselves For Two-Day Back-Pack Trip

CRA Explorers are priming themselves for a rigorous two-day outing this weekend (April 17-18) when they will rendezvous at Pinyon Flat public camp as the starting point for a back pack and overnight hike to Cactus Spring.

Cars will be parked for the weekend at the Pinyon Flat camp where the less courageous hikers may set up base for short excursions around the area. Water and sanitary facilities are provided at the public camp, said Commissioner Dick Bowen.

Stout-hearted hikers will take the trail to Cactus Spring, a dry camp about five miles or so from Pinyon Flat. There they will set up an overnight camp before climbing Sheep Mountain. Sunday they will stretch their legs on another trail hike to Martinez Mountain before heading back to the car camp.

Pinyon Flat is about 115 miles from San Diego at Nightingale on Hwy. 74, some 15 miles south of Palm Desert.

Meeting time for the group is set for 8:30 a.m. Saturday morning. The outing has been coordinated by Larry Lesh who led a similar exploration trip into the same general area last year.

Explorers will meet next Wednesday (April 21) at the Kearny Mesa Clubhouse, 7:30 p.m., for election of officers.

Program will feature a discussion of menus for pack trips, including adequate trail foods, lightweight foods, and camp cookery.

GD Senior Staff Scientist Authors University Text

Dr. C. T. Yang, senior staff scientist in GD/Convair materials and processes (Dept. 504-0) is co-author of a new book, "Mechanics of Plastic Deformation in Metal Processing," published by Macmillan Co., N.Y.

The book, intended to serve dual purposes as a text for senior and graduate students at universities, and as a reference for research and design engineers in industry, was authored by Professors E. G. Thomsen and S. Kobayashi, and Dr. Yang.

Both Thomsen and Kobayashi are affiliated with the department of mechanical engineering, University of California at Berkeley.

"Mechanics . . ." contains basic theories and describes their applications in metal processing.

Abe Hurlich, manager of materials and processes, termed it a useful and valuable work, and explained that application of principles and techniques contained in the volume would aid in developing improved metal forming processes for use in the aerospace industry.

This will result, he said, in higher quality and more uniform parts for space vehicle use, and greatly reduce rejections due to malformed parts. And the theoretical analysis of metal forming processes will also assist in developing improved, as well as more economical, tooling.

Before joining General Dynamics in August, 1963, Dr. Yang was an advisory engineer with IBM at San Jose, Calif. Prior to that, he was associate professor (tenure) of mechanical engineering at University of Michigan, Ann Arbor, and an assistant professor of mechanical engineering at Massachusetts Institute of Technology, Cambridge, Mass.

About three years were required to complete the new work. Because of the basic nature of its subject matter, the book is not expected to become obsolete for at least ten years.



AUTHOR — Dr. C. T. Yang, right, and Abe Hurlich, materials and processes, examine copy of "Mechanics of Plastic Deformation in Metal Processing." Dr. Yang, senior staff scientist at GD/Convair, co-authored work with Professors E. G. Thomsen and S. Kobayashi, both at University of California (Berkeley).

Summer Tour Plans Progress

General Dynamics people may start planning now for a de luxe tour to Mexico this summer as Convair's Jim Hardison, tour conductor, announces plans for his fifth annual trip.

Dates of the two-week journey by air-conditioned train are from Aug. 14 to 29. Departure is from Mexicali with stop-overs at Guadalajara, Mexico City, Cuernavaca, Taxco, Acapulco.

Price for the entire trip is $365 each. This includes round-trip transportation, two meals a day, accommodations at luxury hotels, and admission to attractions.

A preview showing in colored slides will be some time in June, said Hardison, and a capsule course in tourist Spanish sponsored by CRA for anyone interested in brushing up on his knowledge of the language.

Further details may be obtained from Hardison at his home phone, 276-5805.

* * *

Shorter trips below the border may be enjoyed on one-day jaunts to Tijuana arranged for three coming Saturdays, April 24, May 1 and 8.

Hardison will guide busloads of sightseers to highlights of the neighboring city. The afternoon and evening tour will take travelers through the exclusive residential district, to the Country Club, National Lottery, post office, tortilla factory, and cathedral.

Dinner will be at the Jai Alai Restaurant and the evening climaxed by a visit to the Bic night club.

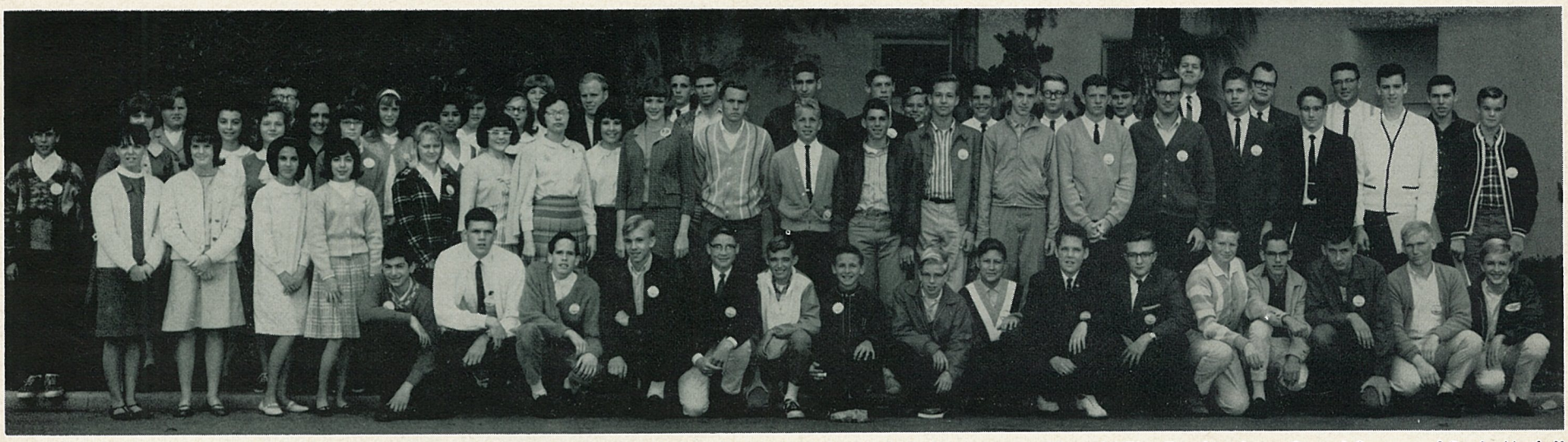
Package price for everything is $11 apiece. Departure is from the Conference Bldg. parking lot in Balboa Park at 1 p.m. with return by 1 a.m.

Reservations must be made by the Wednesday before each tour date: April 21 for the April 24 trip; April 28 for May 1; and May 5 for May 8.

Call Hardison at 276-5805 to reserve a seat on the chartered buses.



"Your qualifications check out, but we'll have to have more information on this nickname of yours . . . 'Old Blabbermouth'!"



SCIENCE WINNERS — Shown here are General Dynamics sons and daughters selected to enter exhibits in 11th annual San Diego Science Fair. Thirty-six of youngsters qualified for further awards. They entered exhibits on such subjects as "How Thin Is Your Money"? and "The Trachtenburg Speed System of Basic Math." Exhibits were entered in all scientific discipline categories. Altogether 61 GD youngsters displayed results of their scientific research.

Explorer Scouts Benefiting From Club-Sponsored 'Course'

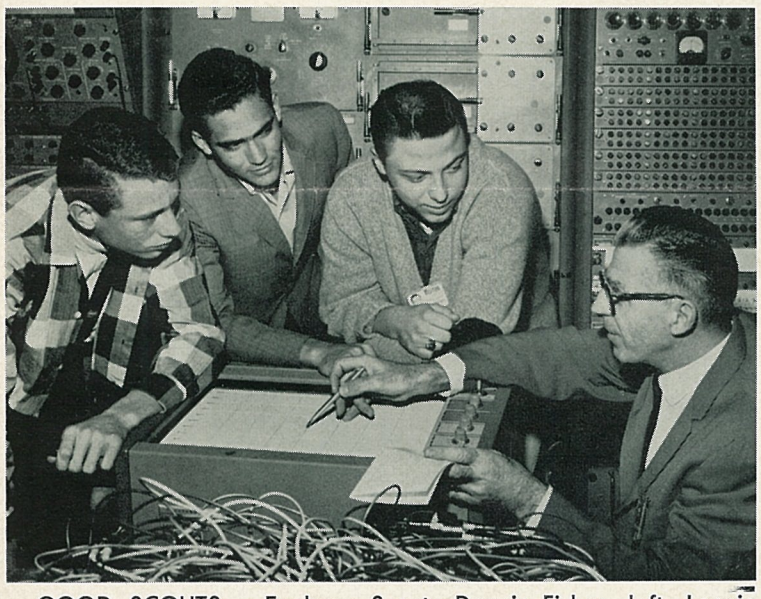
GD/Convair Management Club (Plant 71/19) have made a unique investment in youth during the past year through sponsorship of a "special interest" Explorer Scout post for Kearny and Madison High School teen-agers.

The boys—and their adult sponsors—share a common interest in electronic computing, as well as the fields of space science and ballistic vehicles.

The General Dynamics club has arranged for Post 205 to meet twice monthly at the Kearny Mesa plant during the school year. Meetings have involved a logical plan of "classroom" instruction, considerable homework, and several tours, such as one for a demonstration of computer facilities.

Jim Hanratty of education services (Dept. 130-3), who has served as principal instructor, said the effort "provides an extra-curricular activity in which the young men can learn first hand, and in direct contact with adult professionals who share their interest."

Other GD/Convair men working actively with the Explorers include C. J. Fereday, program coordinator; N. D. Baird, Dept. 490-0, Management Club support; and Warren Newton, Plant 1 educational services, counselor.



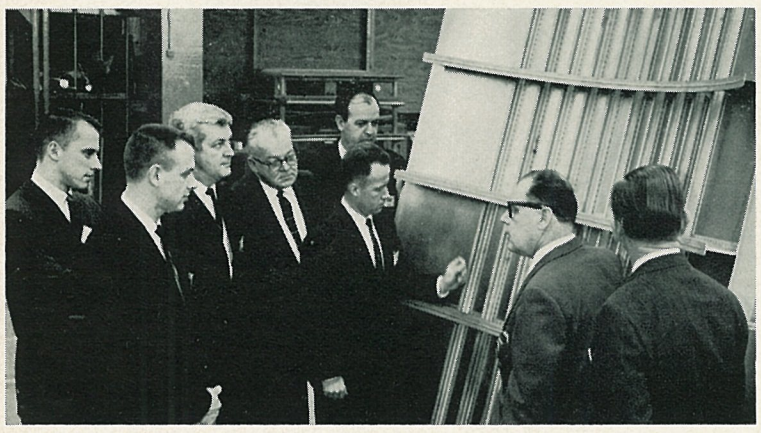
GOOD SCOUTS — Explorer Scouts Dennis Fisher, left, Lonnie Wiens and Ray Adams, are briefed on workings of computing equipment by Jim Hanratty, GD/Convair Dept. 130-3. Scouts from "special interest" Post 205 visited Plant 71 data processing facilities as part of program sponsored by Plant 71/19 Management Club.

NASA Team Reviews Convair's Research in Space Materials

Results of GD/Convair's research and development in the field of materials suitable for advanced booster and aerospace vehicle structures were reviewed recently by a contingent from National Aeronautics and Space Administration.

At Convair for the one-day visit April 1 were J. M. Walters, H. L. Gilmore, C. E. Colley, F. S. Boardman, P. H. Schuerer, P. H. Wormell. All are with NASA's Propulsion and Vehicle Engineering Laboratory, Marshall Space Flight Center, Huntsville, Ala.

Convair men coordinating the inspection were F. F. W. Krohn, engineering staff specialist, and J. M. Adamson, chief of structural design.



NASA VISIT—Team from NASA's Marshall Space Flight Center examines results of GD/Convair's research on materials for advanced structures of future during recent visit to San Diego plant.

Thurston, Croft Fair 'Recruiters'

GD/Convair's Jack Croft and Emory Thurston were judging co-chairmen for the 11th annual San Diego Science Fair. They recruited 200 counselors, advisers and judges from scientific, education and military installations in the area. General Dynamics divisions supplied eight counselors and 46 judges.

Counselors from General Atomic were: George Buzelli, Dr. D. E. Groce, Dr. George Hinman, Dr. Sidney Langer, Dr. John Norman, L. J. Stypinski, and Dr. Lloyd Zumwalt. J. W. Crooks is counselor from Convair.

Judges from Convair were: Dr. W. J. Schart, D. P. Germeraad, Aaron Wolgin, Vincent Martin, Dr. Harold Adelson, D. P. Hoffman, Dr. Sam Kaye, S. H. Bosch, Dr. J. Breeze, M. D. Campbell, J. B. Gardner, J. F. Haskins, L. E. Munson, G. W. Pynchon, H. M. Ikerd, E. W. Schwartz, J. D. Rhamy, D. E. Bain, R. L. Forrest, R. S. Shorey, T. T. Tanalski, Dr. A. H. Husrath, Dr. R. M. Leger, G. L. O'Barr, and Dr. P. E. Wilson.

Judges from General Atomic division: Dr. R. O. Wissinger, Dr. W. F. Bethard, Dr. Ronald Stebbings, Dr. G. Bucolo, Dr. M. A. Fineman, C. S. Luby, G. R. Tully, Dr. P. H. Miller, Dr. H. R. Snodgrass, and Dr. J. W. McGowan.

Judges from Electronics division: R. M. McIntyre, and G. W. Wolfe.

Judge from the Stromberg-Carlson division was C. E. Klein.

Employes who acted both as judges and advisers to the judging staff: Dr. Ed Creutz from General Atomic and J. A. Croft, L. A. McCraw, E. W. Thurston, Everett Lindem, Wayne Turner, Frank Zuch, and Lloyd Curtis, all from Convair.

National Aeronautics and Space Administration representatives with Convair who acted as judges were: Richard A. King, R. Iglesias, R. Pederson, and Ken Lufkin.

Air Force officers at Convair who acted as judges: Majors F. S. Silvasy and W. A. Brown, and Captains Ronald Bulmer and Dominic Chilbert.

Subcontractors Win $41½ Million Orders From Electric Boat

Connecticut and three neighboring states shared $48.5 million in subcontracts in 1964 from General Dynamics' Electric Boat Division for material and components used in building nuclear-powered submarines.

Massachusetts purchases led with $19.3 million, followed by Connecticut with $14.1 million, New York at $12.2 million and Rhode Island with $2.9 million, from a total of 1,671 firms in the four-state area.

The company, with shipyards in Groton and Quincy, Mass., subcontracted close to $100 million in 43 states during the year. Small businesses received awards of $41.8 million, or 42 per cent of the total dollar volume. Connecticut topped all other states with $10.2 million to small firms.

"Small business has responded remarkably well to the unprecedented challenges for precision production to meet the rigid requirements for nuclear-powered submarines for greater depths, more speed and extended submerged operations" according to Don H. Painter, small business liaison officer for Electric Boat.

Salvage Schedule For Plants Listed

Salvage yard schedule at Convair Plant 71 and Plant 1 for the next four weeks is:

Plant 71—April 17, May 1.

Plant 1—April 24, May 8.

Employe sales hours are from 8 a.m. until noon.

Dynamics Sons and Daughters Score Wins at Science Fair

Sixty-one sons and daughters of General Dynamics employes were selected as exhibitors in the 11th annual San Diego Science Fair. Senior Division (grades 10, 11, and 12) winners from General Dynamics families were:

Tamzon Feeney, winner of the Signet Mentor award and first place in zoology; Gary Allen, winner of a chemical rubber award and first place in medical science; Beth Romanowich, third place, winner in botany and second place winner in medical science; Anna Zimmerman, second place in microbiology; Thomas Wolfe, winner of the American Nuclear Society award and second place in microbiology; Greg Mattson, second place in medical science; Donald Atha, first place in biochemistry and the Aerospace Medicine award; Marie Inkel and Larry Landos, both second place group winners; Douglas A. Buckles, third place group winner; Paul Germeraad, winner of the Aerospace Science award; Jeffery Greensite, winner of the Nuclear Science award.

Junior division (grades 7, 8, and 9) winners from GD families:

Penelope Parsons, winner of a chemical rubber award and first place in math; Norman D. Langley, first place in botany; Clifford M. Brown, second place in botany; Audrey E. Ogden, third place in microbiology; Cathy S. Alex, third place in psychology; Jeffery P. Heterington, second place in earth science; Janet E. Gitterman and Nan A. Bray, both third place in chemistry; Vincent H. Tobkin, second place in geology; Robert P. Akins, winner of the American Society of Mechanical Engineers award, a Scientific American award, and first place in physics; Steven A. Mitton, first place in physics; Rolf Menzel, third place in physics.

Charles V. Shelsky and Mark E. Dorian, both first place winners in electronics; Philip D. Gardner, winner of American Society of Engineers award and second place in engineering; Robert D. Black and Mark S. Allen, both third in engineering; Anne E. De Bevoise, second in math; Kandy Poehls and Pamela Franson, both third in math; Adriana Pazmany and Robert Lindvist, both first in the group award; David Goeddel, second in group award, and Shari Lyn Knelange, third place in the group award.

Vegas, Watch Out!

Computer Analyst Authors Book on 'How to Break Bank'

How to break the bank at Monte Carlo, Las Vegas, or Reno —or at least, make it pay for your fun—is spelled out by a General Dynamics computer analyst in his "Casino Gambler's Guide," released this month by Harper and Row Publishing Co.

Dr. Allan N. Wilson, who heads the analysis group in Convair's analog computer laboratory, firmly believes his "systems," evolved from actual experience at the gaming tables and coupled with computer evaluation over the last 10 years, can give the player a fair shake, and even an advantage.



BEATING THE ODDS — GD/Convair's Dr. Allan N. Wilson places "bet" on his favorite "19" on roulette layout. He has gathered mass of information for "Gambler's Guide" Book.

He first became fascinated in figuring the "odds" against the player, and the chances of mathematically improving the percentages, while a student in physics at the University of California at Berkeley in the early 1950s.

"Between classes in atomic particles and quantum statistics, I was contantly distracted by the thought of applying my knowledge of math and physics to roulette," he explained.

He and a fellow student spent a full month, the clock around, playing roulette in a Reno casino, systematically jotting down wins and losses on each number, and color, and figuring out percentages. With data gathered from 80,000 plays (and a wealthy backer), Wilson and his teammate were sure they had cracked the odds, only to have the casino change the wheel!

Since then, Wilson has gone on to examine and tabulate all the common gambling games—blackjack, keno, craps, bingo, slot machines, as well as the age-old baccarat and faro-bank—and summarize the odds for each.

For instance, he states, "Blackjack, or '21,' is the only casino game in which an amateur can learn to win consistently over the long run.

"Don't let anyone tell you that you have to be an Einstein or a Boston lawyer to succeed."

Two Plant Bowl Championships On Schedule For April, May

Convair keglers have a double-feature month ahead with two plant championship events open to bowlers at all Convair plants.

Following close on the heels of the 24th annual CRA tourney set for the weekends of April 24-25, May 1-2, will be a second plant championship tournament on May 15-16 at Clairemont Bowl. This tourney originally had been scheduled as the eighth annual ARA bowling championship.

Since dates and alleys for both tournaments had been firmed before the CRA-ARA consolidation, the now-combined CRA group was committed to carry through with the two events. Next year all Convair bowlers will participate in a single CRA championship tournament.

Entries for the Clairemont Bowl tourney close May 14, Commissioner Forest Erwin, tournament director, announced. Application forms now are available at Plant 71 employe services and Clairemont Bowl.

Entry fee is $3 per person for each event, and an optional $1 fee for all-events, must be paid at time of registration.

Erwin may be reached on ext. 2884, Plant 71, for further information.

Skiers Engage In Annual Race

Former Astro ski club wound up activities as a separate function with its annual slalom races held in ideal skiing conditions the first weekend in April.

Top honors went to Bob McCaffrey, men's advanced; Vern Norris, men's intermediate; Mary Lou Hill, women's intermediate; Patricia Romero, women's novice.

Awards presentation night April 6 marked the merging of Astro Skiers and Convair Ski Club. Vern Norris, president; Loyal Huddleston, vice president; and La Vonne Martinez, secretary-treasurer, will continue in office for the remainder of the year.

Two ski trips to Mammoth are still in store before the season ends. A car trip is set for April 24-25 at $20 a person. A de luxe bus trip the weekend of May 14-15 will offer participation in the Hansel and Gretel Comedy Race, Convair Giant Slalom Race, and Convair Open Junior Race.

Package price of $33 will cover transportation, lodging at Mammoth Mountain Inn, two breakfasts and one dinner.

Skiers will meet May 4 at the Catamaran Hotel at 8 p.m. for a home movie and slide showing. There will be equipment provided for showing any pictures members have taken during ski trips.

For further information on ski activities call Joe Harris, 284-0278; Vern Norris, 273-8168; Loyal Huddleston, 276-5894.

Trailerites Observe Sixth Anniversary

CRA trailerites, formerly known as Astro Travelers, celebrated their sixth anniversary at Picnic Lake Park over the last weekend in March with a ham and turkey dinner.

Fishing and hayrides were enjoyed by the 48 joining in the special celebration.

This month's outing will be the weekend of April 23-25 to Octotillo Wells in the Anza-Borrego desert area. All interested trailer and camper friends are welcome. Contact Marshall Cox, Plant 71, ext. 2713, or Virgil Marshall, Plant 71, ext. 3541, for details.

Next club meeting will be May 4 at Kearny Mesa Clubhouse.

Adult Education Courses Starting

A new schedule of nine-week adult education classes start the first of next week at several San Diego area adult high schools.

Classes in a wide range of subjects will run from April 19 through June 18 at Hoover Adult High, Crawford Adult Center, Pershing Jr. High Adult Center, Harvey Lewis Jr. High Adult Center, and Jewish Community Center. Information is available from Hoover - Crawford Adult High School, 282-7683.

GD/NEWS Deadlines Week in Advance

Publicity contacts appointed to furnish the GD/NEWS reports of CRA activities and sports are reminded that copy must be submitted a week before publication dates. Photographs must be in two days earlier in order to be carried in the same issue.

Deadline for news for the next issue of GD/NEWS, April 28, is next Wednesday, April 21.

League Bowling Begins in May

Summer leagues are in the offing for all Convair bowlers with organization meetings set for the last week of April. Play will kick off the first week in May.

All interested in forming mixed handicap foursomes are asked to gather at the bowling alley of their choice on the evening scheduled. All meeting times, Mondays through Fridays, are 6:30 p.m.

Following is the schedule set up by Commissioners Mike Brooks, Jim Hayman and Forest Erwin:

Tuesday—Clairemont Bowl and Parkway Bowl.

Wednesday—Pacific Recreation.

Thursday—Pacific Beach Bowl, Victory Lanes, Frontier Lanes, Pacific Recreation (800 mixed fivesomes).

Friday—Clairemont Bowl.

Meeting for a men's 540 trio league at La Mesa Bowl will be held April 21 at 7 p.m.

In addition, a Management Club 500 trio league will bowl Monday nights at Clairemont.

For additional information call Brooks, ext. 410, Plant 19.

Wives' Club to Seat Slate of Officers

Newly-elected officers of the Convair Wives' Club will be seated at an April 21 luncheon meeting at Shelter Island Inn.

Installed to head up Wives' Club activities for the coming term will be Jean Beatty, president; Helen Ohland, vice president; Lou Nordeck, second vice president; Flora Loftin, secretary; and Sue Cavanagh, treasurer.

Social hour preceding the luncheon will be at 11 a.m. with new members and guests invited.

For reservations call Mrs. Beatty, phone 273-3971, or Mrs. Ohland, 442-5714.

Schneider, Knutson Lead Pistol Event

Roland Schneider and J. S. Knutson topped master class of the .22-caliber Police Course in CRA Pistol Club competition March 14 with scores of 292 and 291, respectively.

Dale Young, with a 271, was first in expert class; Angrim Carlson, second, 266.

In sharpshooter class, Byron Clapper shot 252, and Ernie Kampmann scored 214 in marksman class. Both were the only competitors in the two classifications.

COMBINED RADIO CLUB TO MEET

Combined CRA Radio Club will meet April 21, 7:30 p.m., in Kearny Mesa Clubhouse for election of officers and discussion of future activities. All members are urged to attend, Co-commissioners Jim Lack and Don Jenkins said.

CRA Calendar

(Convair Recreation Association has 40 activities in operation for Convair, GD/Electronics, Stromberg - Carlson employes. For information call CRA Headquarters, Kearny Mesa, Plant 71, ext. 1111.)

★ ★ ★

BADMINTON — Weekly play Monday, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING—Deadline for CRA tourney (April 24-25, May 1-2) extended to April 17. Register now for May 15-16 tournament at Clairemont Bowl. Summer leagues now forming. Call Mike Brooks, Plant 19, ext. 410.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m. and 7-11 p.m., Kearny Mesa Clubhouse.

COIN CLUB — Joint meeting April 21, 7:30 p.m., Kearny Mesa Clubhouse.

EXPLORERS — Weekend back pack and overnight hike to Cactus Spring April 17-18.

FENCING—Workouts and instruction Fridays, 7:30 - 10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB — Meeting April 21, Gillespie Field Clubhouse. Potluck, 6:30 p.m., business session, 7:30 p.m.

GOLF—Entries open tomorrow (April 15) to April 23 for Twilight League play. Entries open today (April 14) to April 19 for CRA tourney April 24-25, Cottonwood. Sign at Kearny Mesa Clubhouse, Plant 1 and 19 employe services.

GUN CLUB — Open ATA registered trapshoot 10 a.m., April 18, Gillespie Field Range.

ICE SKATING—Free opening ice skate night for GD families tomorrow (April 15), Mission Valley Ice Arena, 6-7:45 p.m.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot April 25, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Election of officers April 21, 7:30 p.m., Kearny Mesa Clubhouse.

RIDING CLUB — Fun show, CRA ring, Kearny Mesa, April 17. Meeting tonight (April 14), 7:30 p.m., Kearny Mesa Clubhouse.

ROLLER SKATING — Free skate night April 19 at Skateland, Front and G Sts. Tickets at Kearny Mesa Clubhouse and Plant 1/19 employe services.

SCULPTURE — Workshop instruction Monday evenings, 7:30 p.m., Kearny Mesa Clubhouse.

SNOW SKI CLUB—Car trip to Mammoth Mt. April 24-25.

SOFTBALL — Managers meeting April 15, 7 p.m., Room B, Kearny Mesa Clubhouse.

SPORTS CAR CLUB — Atlas VII Rallye April 25.

SWIMMING—Free swim night April 17, Mission Beach Plunge, 7-9 p.m. Tickets at Kearny Mesa Clubhouse, employe services outlets.

TEEN CLUB—Dance April 17, 7:30-11:30 p.m., Kearny Mesa Clubhouse.

TRAILER CLUB — Weekend outing to Ocotillo Wells April 23-25. Meeting May 4, Kearny Mesa Clubhouse.

TROPICAL FISH — Call Dick Rowe, Plant 71, exts. 2105/2193, for information on workshop sessions.

WATER SKI — Meeting April 19, 7:30 p.m., Kearny Mesa Clubhouse.

WIVES—Culinary arts course starts tomorrow (April 15) 1-3 p.m., Kearny Mesa Clubhouse. Wives' Club installation luncheon April 21, Shelter Island Inn. For reservations call Jean Beatty, 273-3971, or Helen Ohland, 442-5714.

LAS VEGAS TRIP BY BUS PLANNED

CRA is planning a bus trip to Las Vegas for all Convair people the weekend of May 8-9. Details will be announced later.

Sign-up Begins Today For Links Tourney

Sign-up for the April 24-25 CRA monthly links tourney over Cottonwood course begins today (April 14) and closes April 19, Commissioner Ken Wulfemeyer announced.

The medal play tournament is open to all Convair employes at any San Diego facility. Prizes will go to best net and gross scores in each flight.

Starting times will be assigned by CRA Headquarters, Plant 71, ext. 1111.

Players should call early for times as they are limited and will be given on a first-come basis, Wulfemeyer said.

Sixty Compete For Buckles

Sixty marksmen turned out March 28 for CRA Gun Club's registered ATA trapshoot to shoot for engraved belt buckles, first-place prizes in each division.

Winners in the 16-yd. event were: Class A—C. Stinson, El Centro, 91; Class B—Tony Scuderi, San Diego, 90; Class C—A. T. Higginbotham, National City, 96; Class D—C. H. Smith, La Mesa, 92; Class E—Fred Ralston, San Diego, 86; high junior, Jim Keyes of Potrero, 71.

Buckles also went for high scores in each yardage competition in handicap: 19-yd., Scuderi, 93; 20-yd. Morley Williams, Anaheim, 91; 21-yd., Nate Tate, San Diego, 88; 22-yd., Carl Haynes, San Diego, who broke a tie with Jim Prewitt, Spring Valley. Both shot 87s.

Don Estes of Lakeside won the 23-yd. with 86; Bill Shrode of Fallbrook, combined 24-27-yd., 90.

U. Bagsby of San Diego shot an 83 to take Class A in the doubles. Smith topped Class B with 79. Keyes' 70 was good for high junior honors. High lady was Lois Smith of San Diego with a 71.

Next registered ATA shoot is set for Easter Sunday (April 18) at Gillespie Field Range. Starting time is 10 a.m.

Tony Miller to Head Convair Bridge Club

Tony Miller was elected president of the Convair Bridge Club at the March 26 election.

Vice president is Freddie Combs; treasurer, Charles Goodrich; secretary, Mitzi Rustad; publicity, Don Leistico; librarian, Vance Walsh.

Winners in bridge play the same night were Tony and Jody Miller, North-South; Mits and Sally Ishihara, East-West.

At the monthly Master Point Night April 2, Francys Darr and Kay Stites held North-South honors; Bob and Mitzi Rustad, East-West. March 12 top players were Don Leistico and Freddie Combs, North-South; Bob and Mitzi Rustad, East-West.

'Vacation Fantasy' Tickets Available

Tickets to the "Vacation Fantasy" fashion show to be staged by IRC at OceanHouse on April 28 are still available to Convair people at $1.50 each.

Vacation attire for men and women will be modeled at the annual event, scheduled from 7 to 9:30 p.m. Refreshments, entertainment, door prizes will be on the program.

Tickets are on sale at Kearny Mesa Clubhouse, Plant 71; employe services outlets at Convair Plants 1 and 19, GD/Electronics and Stromberg-Carlson Plants 1 and 2.

WIVES WILL LUNCH AT DEL CORONADO

GD/Electronics and Stromberg-Carlson wives will meet tomorrow (April 15) for luncheon at Hotel del Coronado. Social hour is at noon, lunch at 1 p.m. in the Windsor Room. Price is $2.85 per person.

Skating Club Back in Business

A free ice skating session tomorrow (April 15) will launch CRA Ice Skating Club's resumption of operations at the all-new Mission Valley Ice Arena.

The rink, under new management, has been completely refurbished since the ice skating activity was curtailed in late February, explained CRA Commissioner Bud Davies.

For the opening session, all GD employes, families and guests, will be admitted free. Only charge will be a 35c skate rental fee for those not having their own skates.

Skating will start at 6 p.m. and continue until 7:45 when the ice will be resurfaced for the public session at 8 p.m. A snack bar is provided for skaters' convenience during the 15-minute recess.

CRA representatives currently are negotiating a mutually-satisfactory private session discount rate from the normal admission prices of 60 cents for children; juniors, 75c; adults, $1, which prevail at Mission Valley's regular three daily sessions.

The discount rate will be effective at future GD Thursday night private sessions. Also featured will be the free instruction classes which have proved popular over the years.

Further information may be obtained from Davies, Plant 71, ext. 2751, or Norma, Plant 71, ext. 4041.

Deadline is April 23 For Baseball Trip

Ball fans have another week to reserve seats on chartered buses which will transport 160 Convair people to the Giants vs. Dodgers game in Los Angeles April 30.

Friday (April 23) is last day reservations can be made for the special trip arranged by CRA. Noon is deadline time.

Package charge is $6.50 for round - trip transportation, box lunch, and admission to the game.

Three buses will load at Plant 71 at 5 p.m. on the Friday night date, and one bus will pick up Plant 1 people at 4:45 p.m.

Reservations can be made by calling Kearny Mesa Clubhouse, Plant 71, ext. 1111, or at Plant 1 through Molly Dowell, employe services, Bldg. 16, ext. 430. Payment must be made at time of sign-up.

Water Skiers Invited To Clubhouse Meeting

All GD water skiers are invited to CRA Water Ski Club's second meeting of the season next Monday (April 19), 7:30 p.m., in Kearny Mesa Clubhouse, Plant 71. Prospective members are especially welcome.

The club has acquired a new 16-ft., 120 hp inboard boat to replace the 75 hp outboard which will be sold. The new "Sweet Sixteen" and the club's 40 hp outboard will be in the water and ready for skiing around the middle of May.

Further information is available from Sam Cohen, 273-8167, after working hours.

Teen-agers to Dance To 'Nomads' Music

"Nomads," popular San Diego dance band, will provide the lively music for this Saturday's (April 17) Teen Club dance. Betty Turner, well-known by the younger set, will be featured as guest singer.

"Stag or drag" is in order for the 7:30-11:30 p.m. dance night in Kearny Mesa Clubhouse. Price is $1 each. Good school clothes are appropriate dress.

Parents of interested teen-agers may pick up applications for membership in the CRA-sponsored club at Kearny Mesa Clubhouse or Bldg. 8, Plant 71, employe services.

Sports & Recreation

Complete Roster Announced For Commissioners of CRA

Activities of the newly-reorganized Convair Recreation Association, and commissioners heading up each, announced by J. K. Field, chief of employe services, are as follows:

ARCHERY—Al Stone, Plant 71, ext. 1207.

ASTRONOMY—Morie Streiff, Plant 71, ext. 1951.

BADMINTON—Allen Van Norman, Plant 71, ext. 3873.

VARSITY Baseball, Basketball, Bowling — Pete Beyrer, CRA Headquarters, Plant 71, ext. 1111.

PLANT BOWLING — Mike Brooks, Plant 19, ext. 410; Forest Erwin, Plant 71, ext. 2884; Jim Hayman, Plant 71, ext. 3509.

BRIDGE—Bob Rustad, Plant 71, ext. 4227.

CHESS—Art Munson, Plant 71, ext. 3357.

COIN CLUB — Vince Bacon, Plant 71, ext. 2561.

DRAMA—Jack Garrison, Plant 71, ext. 765.

EXPLORERS — Dick Bowen, Plant 71, ext. 4385.

FENCING—Mike Hurley, Plant 71, ext. 4633.

FISHING—Bob King, Plant 71, ext. 1846; Bob Menzie, Plant 19, ext. 1724.

GARDEN CLUB — Everett Henderson, Plant 71, ext. 2861; Gene Zimmerman, Plant 1, ext. 1046.

GOLF—Ken Wulfemeyer, Plant 71, ext. 3363.

GUN CLUB — Jack Swank, Plant 1, ext. 580.

HI-FI—Archie Ellsworth (acting commissioner), Plant 71, ext. 1115.

JUNIOR SCIENCE — Keith Sears, Plant 71, ext. 2328.

ICE SKATING — Bud Davies, Plant 71, ext. 4041.

INTRAMURAL SPORTS—Pete Beyrer, Plant 71, ext. 1111. Softball, Tony Berardini, Plant 1, ext. 1046; basketball, Gil Crosthwaite, Plant 19, ext. 1495; flag football and volleyball, Pete Beyrer.

MODEL RAILROAD — Dave Fyffe, Plant 71, ext. 1256.

PISTOL — Joe Williamson, Plant 1, ext. 1413.

RADIO — Don Jenkins, Plant 71, ext. 1057; Jim Lack, Plant 1, ext. 1114.

RIDING—Joe Pena, Plant 19, ext. 734.

RIFLE — Bob Andrews, Plant 71, ext. 777; Martin Miller, Plant 1, ext. 715.

ROCKHOUNDS — Dan Whorton, Plant 1, ext. 2058; Fred Baugh, Plant 71, ext. 1446.

SAILING — Charlie McLean, Plant 71, ext. 4586.

SCULPTURE — Pete Beyrer, Plant 71, ext. 1111.

SKIN DIVING — Cliff Kickbush, Plant 71, ext. 2418; Harry Ruscigno, Plant 71, ext. 4201.

SQUARE DANCING — Marty Stutz, Plant 71, ext. 1444.

SPORTS CAR—Gerry Wright, Plant 1, ext. 1130.

SLOT CAR—Ed Foland, Plant 71, ext. 746.

SNOW SKI—Joe Harris, Plant 1, ext. 1032.

STAMP CLUB — Art King, Plant 71, ext. 4094.

TENNIS — Ray Hardy, Plant 71, ext. 2549.

TRAILER CLUB—Ralph East, Plant 1, ext. 1141; Virgil Marshall, Plant 71, ext. 3541.

TROPICAL FISH — Pete Beyrer, Plant 71, ext. 1111.

COUNCIL members-at-large — Evelyne Thrall, Plant 71, ext. 3363; Paul Pearson, Plant 1, ext. 1141; Jack Benedict, Plant 1, ext. 1141; Hank Fuller, Plant 71, ext. 1789; Ezra Johnson, Plant 71, ext. 3388.

Fowler, Rae Keg Winners

"All the way with Fowler and Rae," was the magic slogan which swept the duo of Bill Fowler and Hugh Rae to victory in Convair Fire Department's annual winter keg battle.

Fowler and Rae, as Team No. 1, retaliated their last year's defeat by Team No. 2 (Ralph McConnell and Fred Green) as they skinned by with a half-game lead —55 to 54½. Team No. 2 led last year's league by the same slim margin. Both teams won CRA trophies at the end of the season late last month.

Third-place standing was held by Team No. 7 made up of Pete Houtkooper and Harvey Catledge. They also wound up the 21-week schedule with high team game of 411.

Team No. 4 rolled high team series, 1,105. Del Dimmitt had high individual series of 616. McConnell and Houtkooper tied for high individual games with 232s.

Fowler had top high handicap series of 695 and received "most improved bowler" honors by raising his average 18 pins. Jim Birdsong rolled high handicap game of 264.

Fire Department supplied individual trophies to all top bowlers, with the exception of first and second-place teams, for their prowess during the winter league bowled at Frontier Lanes.



HAPPY DUO—Hugh Rae and Bill Fowler beam proudly as they show off CRA trophies won for top team performance in Fire Dept. bowling league.

April 25 Chosen For Car Rallye

Atlas Rallye VII, the annual championship event of the GD/Convair Sports Car Club, will be held April 25.

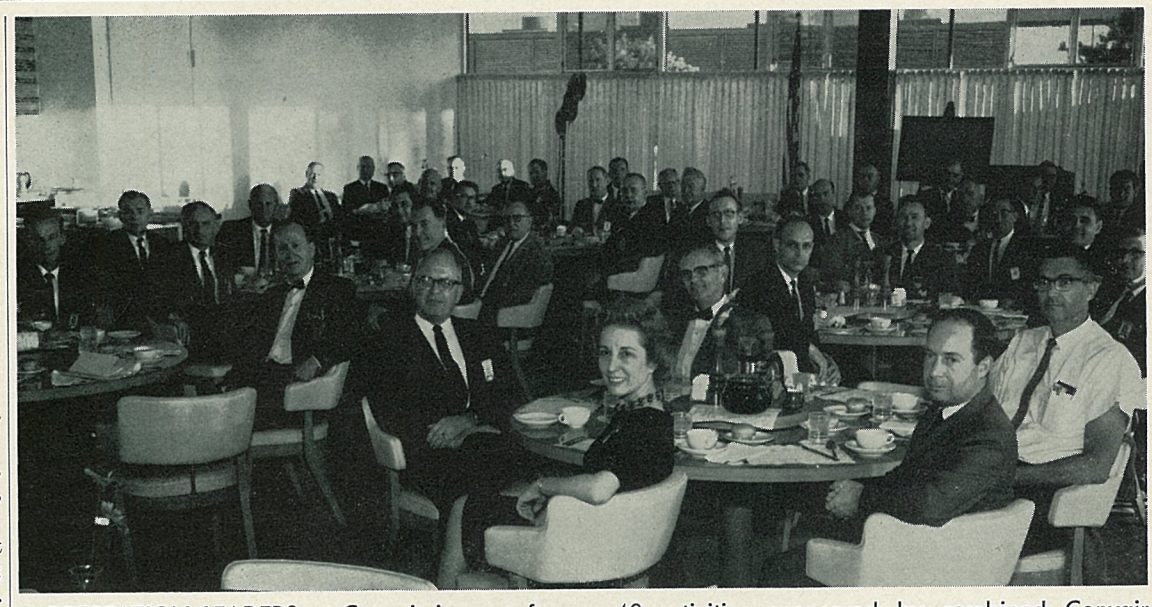
Open to all sports car drivers, the event is sanctioned by the San Diego Council of Sports Car Clubs. Entry forms are available at CRA Clubhouse, Plant 71.

Fees are $5 per car for pre-entries and $6 for post entries.

The nine-hour, 280-mile run begins from the CRA parking lot just off U.S. 395 and Clairemont Mesa Blvd.; first car out at 7:01 a.m.

Dash plaques will be awarded to all cars. Trophies will be awarded to both the driver and navigator in each class, 1st through 5th, and to each car, 6th through 10th, in both classes.

Jack Gallant is rallymaster.



RECREATION LEADERS — Commissioners of some 40 activities sponsored by combined Convair Recreation Association gather at organization meeting in Plant 71 executive dining room to formulate plans for coming year. J. K. Field, chief of employe services, is in foreground.

Twilight Golf Leagues Form

Twilight Leagues are forming now for Convair men golfers with sign-up to start tomorrow (April 15). Entries will be accepted until April 23, said Commissioner Ken Wulfemeyer.

Play will begin May 11 and continue for 10 consecutive weeks at Sam Snead's 18-hole course in Tecalote Canyon.

Tee-off times will be after work from 4:30 to 7 p.m. Established handicaps are not required and winners will be determined on an individual score basis. Entry fee, which will go toward prizes, is $2 per player and greens fee is $2 a round.

Entry fee is payable upon sign-up at the Kearny Mesa Clubhouse, Plant 71, or employe services at either Plant 1 or 19. Starting times will be assigned by Inez, ext. 1111, Plant 71.

★ ★ ★

All General Dynamics linksmen are eligible to take part in the coming IRA golf tournament which will be played over the first two weekends in May (May 1-2 and 8-9) at Torrey Pines and Balboa courses.

Entry fee is $3.50, with no CRA subsidy, and is payable at time of sign-up the rest of this week—April 14 through 16.

Entry blanks now are at Kearny Mesa Clubhouse, Plant 71; employe services at Plant 1 and Plant 19.

The city-wide tourney is open to Stromberg-Carlson, GD/Electronics, General Atomic, and Convair players.

'Sound of Music' Price Discounted by CRA

General Dynamics theater-goers can see "Sound of Music" at discount prices on April 29, GD night at Loma Theatre, 3150 Rosecrans, through CRA arrangements.

Tickets purchased at plant outlets will be 20 per cent lower than regular prices: $2.40 for $3 loge seats, and $2 for orchestra seats, regularly $2.50.

The special tickets are available at the Kearny Mesa Clubhouse and Bldg. 8 employe services, Plant 71; Convair Plant 1 employe services, Bldg. 16; Plant 19 employe services from Marianne between 1 and 4 p.m.; Rose Canyon, Virginia Cannon, ext. 265; Stromberg-Carlson and GD/Electronics employe services, Bldg. 51, Plant 1; and S-C Plant 2, Hancock St.

Softball Managers To Meet Tomorrow

Softball managers for both fast and slow-pitch leagues will meet tomorrow (April 15) at 7 p.m. in Kearny Mesa Clubhouse, Plant 71.

All managers are urged to attend, said Pete Beyrer of CRA, as roster blanks will be distributed and final eligibility rules firmed.

Pre-season tourneys will be held the last week in April.

Gerry Wright Elected To Head CRA Council

(Continued from Page 1)

Johnson, Ray Mendoza, and Marty Stutz.

Wright, schedules engineer in estimating, joined GD/Convair engineering in 1942 and has actively directed sports car activities for that division for 10 years. He has served as CRA commissioner of the group since 1956 and just completed two terms of office as president of the former CRA Council.

Davies has been responsible for ice skating activities since the original group was formed in 1952 and since his transfer to the former Astro division in 1959 has directed combined ice skating programs for General Dynamics people. He also served as model railroad commissioner at Convair and was vice president of the former CRA Council.

During the last few years he has devoted a great deal of time and effort to development of the recreation area at Plant 71, being mainly responsible for procurement of the popular merry-go-round and band organ.

Now a design group engineer in airborne instrumentation of the Centaur project, he joined Convair in 1941.

Kickbush, a native San Diegan who grew up with water sports, was a charter member of the Astro Divers group when it was organized in 1958. He held several club offices before he was named commissioner in 1961.

He also serves as a lieutenant of the specially trained team of divers making up the San Diego Council of Diving Clubs' Search and Recovery Team, and, as such, is on call at all times in emergency recovery situations.

He first joined the company at Pomona division in 1952, transferring to the former Astro division the fall of 1956. He is a tool planning analyst in Centaur production engineering.

Evelyne Thrall, Convair employe services, joined the company in 1956 in payroll section. She has been CRA accountant the last four years and has served as secretary of the former CRA Council three consecutive years.

J. K. Field, chief of employe services, who chaired the organization meeting of the combined recreational councils, outlined the facilities now open to all Convair employes at any San Diego facility.

These well-developed facilities include the recreation area and clubhouse adjacent to Plant 71; Gillespie Field with trap, skeet, rifle ranges, sports car garage, rockhound and boat building shops; Pecan Park picnic grounds east of El Cajon; and Pine Crest, 100-acre mountain resort near Julian.

Deadline Extended For Bowling Entries

Deadline for entering the annual CRA plant bowling championship has been extended an extra week—to April 17—to give all Convair keglers a chance to sign for the yearly event.

Tourney dates are April 24-25 and May 1-2 at Pacific Recreation.

Entry forms still may be obtained at the Kearny Mesa Clubhouse, Plant 71; Plant 1 employe services, Bldg. 16; and at Pacific Recreation alleys.

Culinary Course Begins Tomorrow

Introductory session of the beginners' course in culinary arts for Convair wives and their friends will be tomorrow (April 15) Kearny Mesa Clubhouse.

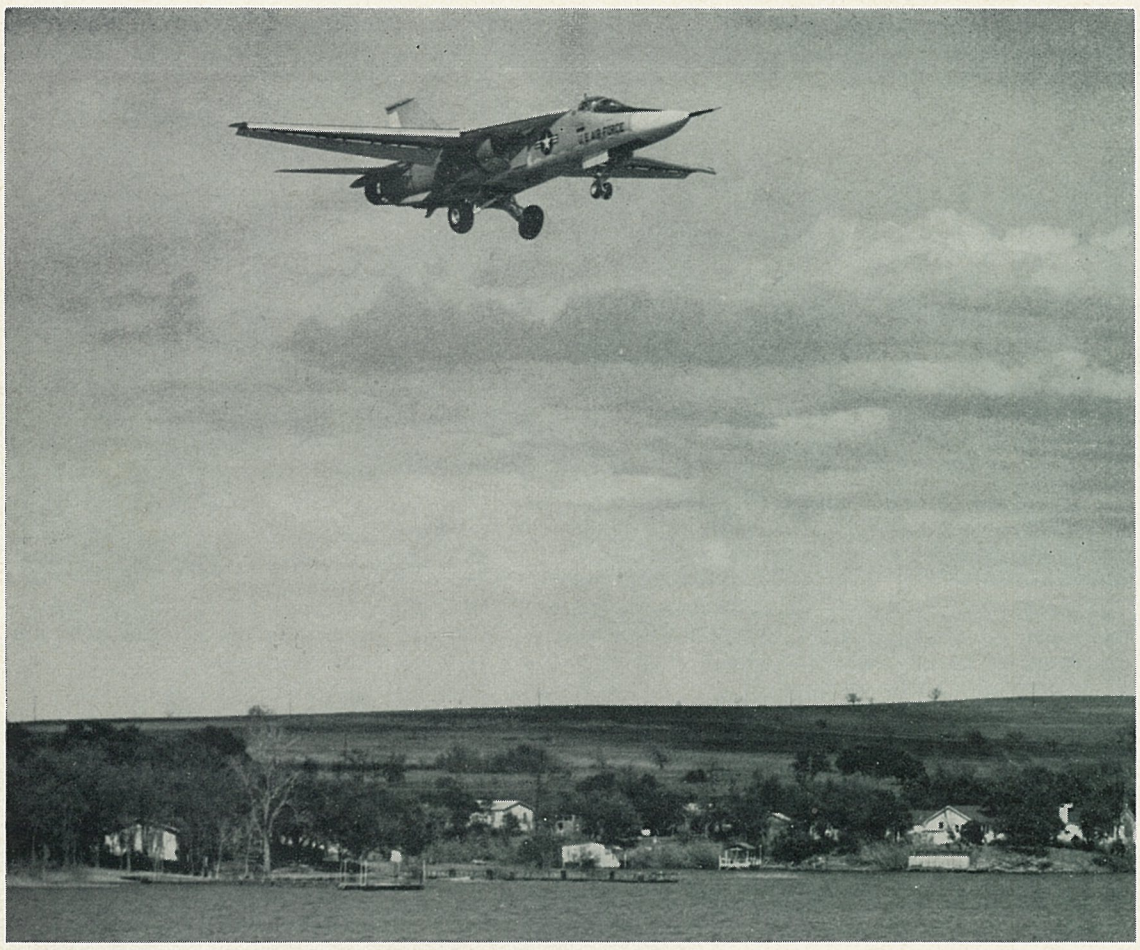
Gil Hutter of Prophet Co. will instruct the 10-week course each Thursday thereafter from 1 to 3 p.m. First formal class will be April 22.

Course will include cake and salad decorating as well as other specialties of the "trade."

Any interested lady is invited to attend.



TOO GOOD TO EAT—Gil Hutter, Prophet Co. cafeteria manager at Plant 71, puts finishing touches on artful concoctions as he gives Jean Beatty (right), Wives' Club president, and Vi Sunde of Prophet Co. preview to cake decorating course he will start tomorrow.



VERSATILE — F-111 comes in over Lake Worth for landing at Carswell AFB strip following successful flight. Slated for both Air Force and Navy, fighter will be "at home" over land or sea.

Scientists Inspect Jet 990 Modified For Viewing Eclipse

Scientists and engineers from all parts of the United States and several European countries who will be observing the May 30 eclipse from a Convair 990 jetliner were in San Diego recently to review modification of the aircraft.

Convair converted the 990 jet to a flying laboratory for space and aeronautics research for the National Aeronautics and Space Administration.

The plane now is equipped with 15 stations and view ports for the 30 scientists and their assistants who will be aboard to observe the eclipse at a precise time and position over the South Pacific.

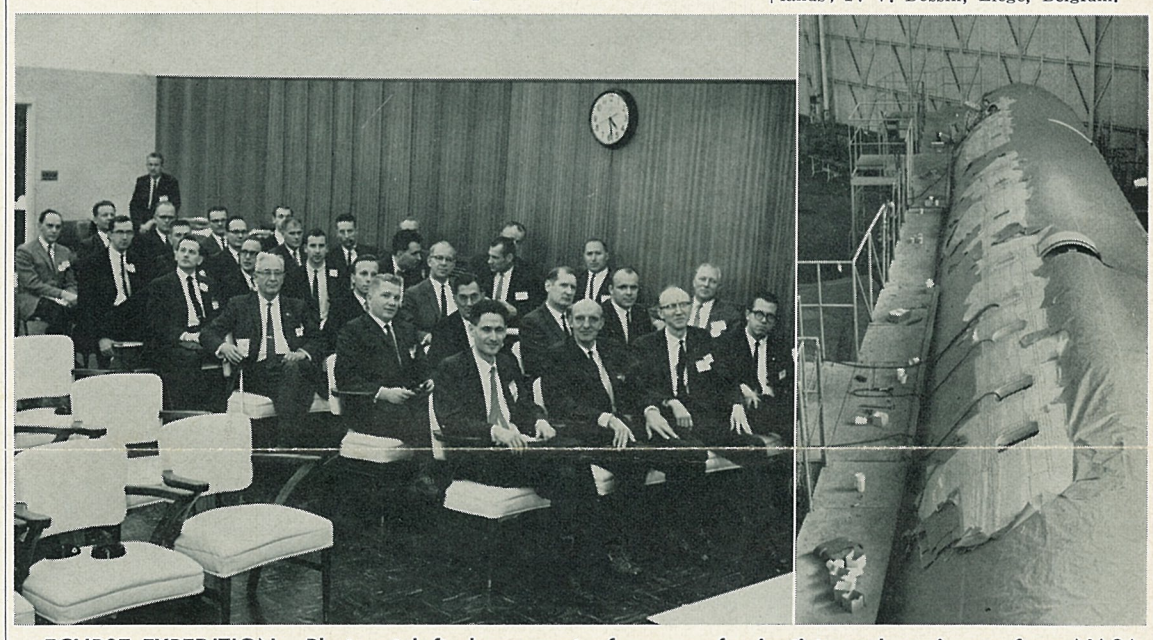
It will be piloted by a Convair crew: W. B. Harwell and Loren Pilling, pilots, and Ludy Knudsen, flight engineer. P. R. J. Reynolds of Pan American Airways will be navigator.

Dr. Michel Bader, chief of physics at NASA's Ames Research Center, will head the scientific observation as manager of the 1965 eclipse expedition. L. C. Haughney is Dr. Bader's assistant. G. W. Stinett, also of Ames, will be responsible for aircraft operations.

The plane was delivered April 2 to Moffett Field airport, adjacent to Ames at Mountain View, Calif.

E. F. Kotnik, Convair 990 project manager, coordinated the review of the aircraft and all efforts necessary to culminate the modification program at the San Diego facility. During the two-day review the group attended a conference on the aircraft configuration and experimenters requirements at Douglas Aircraft Co.'s Santa Monica plant.

At San Diego for the conference were: Dr. Bader, Stinett, Haughney, R. A Acken, M. E. Henderson, S. M. Smith R. A. Torrey, L. A. Clousing, all of Ames; A. T. Ireland, L. Larmore, W. B. Klemperer, R. M. Cameron, J. D. Gehris, W. N. Arnquist, J. H. Waddell, E. V. Petersen, E. W. Steffen, J. L. Whittaker and B. F. Coggan, vice president of operations, all of Douglas Aircraft; J. Mangus and K. Saffer of NASA Goddard; K. E. Kissell and R. C. Vanderburgh, AF Aeronautics Research Laboratory, Wright Patterson; Reynolds from Pan-American Airways, New York; Robert Fleischer, National Science Foundation; W. A. Feibelman, University of Pittsburgh; James Weldon, NASA Headquarters; R. B. Dunne and T. Cothen, SAC Peak Observatory; Dr. Armin J. Deutsch, Mt. Wilson and Palomar Observatory; Maj. W. R. Lauterback, AF Cambridge Research Laboratories, Boston, Mass.; S. Stone, Los Alamos Scientific Laboratory; Stanley A. Miller, NASA, Santa Monica; G. Righini, Arcetri, Italy; T. de Groot, Utrecht, Netherlands; F. V. Dossin, Liege, Belgium.



ECLIPSE EXPEDITION—Photo at left shows part of group of scientists and engineers from NASA, Douglas Aircraft Co., and other institutions in U.S. and foreign countries at Convair recently to discuss modification of Convair 990 to be used by NASA as observational platform for May 30 solar eclipse. NASA 990 jet was prepared for task at Convair. Photo at right shows installation of view ports in fuselage for observation purposes.

F-111 Readied For Flight To Edwards Test Base

Successful flight-testing of the F-111 continued at GD/Fort Worth this week amid these developments:

F-111 No. 2 is being readied for an April 30 flight to Edwards AFB to open the Category I test program.

Airplane No. 3 rolled off the assembly line on schedule and into field operations, where it is being groomed for its maiden flight, probably this month.

R. W. Moller, manager F-111 flight test, said departments were coordinating personnel and equipment for the momentous April 30 flight to Edwards.

A nucleus of about 100 GD/FW personnel at Edwards are awaiting arrival of the first variable-wing fighter at the California base. Victor Allwardt is base manager for GD/FW.

Moller said Category I testing would be carried out to define the F-111's flight envelope and to integrate components and subsystems. A total of seven F-111s will be used in the Category I phase.

F-111 No. 1 chalked up three flights over the past three weeks, with a supersonic sprint included in each mission.

One of the flights—a one-hour, 30-minute affair at altitudes ranging from 10,000 to 30,000 feet—was described by the Air Force as "one of the most successful" to date.

Testing of the plane's propulsion systems and stability and control was reportedly carried out with "very satisfactory results."

"During the flight, the engines were alternately shut down and restarted," the Air Force said in an announcement of the flight.

No. 1 plane was involved in a 55-minute flight April 3 and a 1-hour, 35-minute test mission April 6. Wings were fully swept and supersonic speeds reached during both flights. Most objectives were reached.

Dick Johnson was pilot for all No. 1 flights, with Fred Voorhies as co-pilot.

Meanwhile, F-111 No. 2 was turning in a 1-hour, 50-minute mission April 3 in which essentially all flight aims were attained.

Val Prahl, Johnson's co-pilot on the F-111 first flight, is pilot of No. 2 plane. W. H. Harse is co-pilot.

PRIEST RE-ELECTED TO DATA BOARD

L. G. Priest, GD/Convair reliability engineer, has been re-elected to the national Contractor Advisory Board of Interservice Data Exchange Program. The program is designed to distribute findings of various tests to participating prime or major subcontractors in missile, space, and related programs.



"Oscar always wants a sandwich in the middle of the night if he wakes up hungry."

Stromberg-Carlson to Build Tracker Ships' Phone Systems

Stromberg-Carlson Corp. has been awarded two contracts to provide special communication systems for three U. S. Navy range instrumentation and tracking ships. The contracts were awarded by the Electronics division of General Dynamics Corporation.

The ships, which are being converted from World War II tankers, are to be designated T-AGM-19 Class. They will be used in NASA's Apollo "man-to-the-moon" program, as well as in support of other major space efforts.

Work on these two contracts will be carried out at S-C's Rochester headquarters and at its Charlottesville, Va., facility.

William A. Rockwood, S-C vice president, sales and administration, noted that these are the first major contracts that will employ the skills of both facilities since Stromberg-Carlson merged with United States Instrument Co. of Charlottesville in December of 1964. Both firms manufactured complementary communication products.

When completed, the T-AGM-19 Class tracking ships will probably operate in the Atlantic, Pacific and Indian Oceans. In conjunction with the Manned Space Center and other land installations, they will provide a single global communication and tracking system for the lunar-bound Apollo and other deep space probes.

Three interphone systems will be engineered, designed and manufactured in Rochester and then installed on the ships.

Three 100-mile telephone exchanges, which will be used for administrative purposes aboard ship, will be manufactured at the Charlottesville plant. They will tie into national telephone networks when the ships are in port.

The interphone system will function as an intercom between various areas in the ships and as a key facility in the world-wide tracking network.

Magnuson to Chair National Convention

W. E. Magnuson of GD/Convair has been named general convention chairman for the National Management Association's 1965 annual convention to be held this fall (Oct. 25-29) in San Diego.

The NMA convention is expected to draw over 1,000 management men from all over the country. Hosts for the week-long meeting will be NMA clubs of the San Diego Area Council, including Convair, GD/Electronics, and Stromberg-Carlson Management Clubs.

This is the second national convention Magnuson has arranged. He served as chairman for the 1955 NMA gathering in Fort Worth while he was with the GD/Fort Worth division.

990 Will 'Lengthen' Eclipse to 9 Minutes

Convair's "sun-chasing" 990 will be one of four planes racing down a narrow, 8,000-mile corridor of the South Pacific to keep pace with the May 30 total eclipse of the sun.

Planes will speed at 600 miles an hour along the eclipse path to stay within the easterly-moving shadow of the sun for at least nine minutes. For earth-bound viewers, the eclipse will last just four minutes!

The French government has given permission for the Convair 990 to refuel at Tahiti. Other planes will refuel at Samoa and at Hilo on the island of Hawaii.

NASA selected the Convair 990 for the eclipse mission because it can climb to altitudes of more than 40,000 feet.

The 990, built as the prototype for the advanced version of Convair jet commercial airliners now in use by airlines in this country and abroad, has been leased by NASA with an option to purchase. Modification of the huge craft to a scientific test bed was performed at Convair.

Solar Eclipse Jet Given Lucky Number

NASA 990, which will carry contingent of scientists across the South Pacific Ocean to intercept the coming solar eclipse, should be the "magic carpet" for the expedition if omens point in the right direction. It bears the "luckiest" number of all—711, bequeathed by NASA registration.

GDDDDD

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol 18, No. 9 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, April 28, 1965

Gen. Schriever Calls For Bold Advances

"Be bold, imaginative and, above all, persistent," Gen. B. A. Schriever advised a GD/Convair Management Club audience in San Diego's El Cortez Hotel April 15.

In a talk that was a blend of nostalgia and inspiration, the commander of the Air Force Systems Command reviewed the U.S. position in what he called the "early stages of the space age."

C. S. Ames, Convair vice president and space launch vehicle program manager, introduced the general as "more than any one man, responsible for the success of the U.S. ballistic missile program, including the Atlas ICBM and the Atlas space launch vehicle program."

Ames said that "Atlas has established an unequaled launch reliability record, 31 successes out of 32 launches since June, 1963. Cost reductions through the standardization concept, developed under Gen. Schriever's direction, have enabled us to submit firm cost proposals to the Air Force to up-rate follow-on SLV-3 boosters capable of delivering orbital payloads at less than $500 per pound."

Although recognizing the progress that has been made (performance of the Atlas is "nothing short of fantastic"), Gen. Schriever said that despite the technological explosion in the last 20 to 25 years, the U.S. could have been further along. It was in this context that he called for bold and imaginative planning and persistence.

"Change is always opposed by the majority, and persistence must turn a deaf ear to all those who say no," he warned.

"Too often we have acted from response, not initiative," he re-

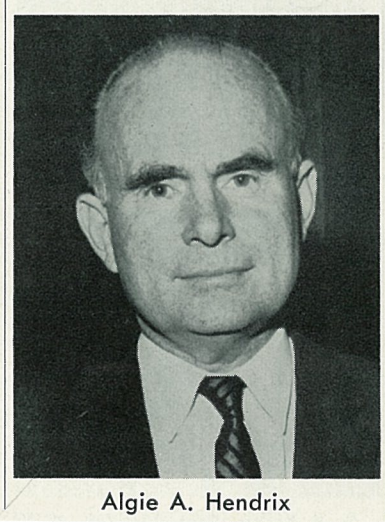
(Continued on Page 2)

Target Set as Divisions Poised For Bond Drives

A Corporation-wide campaign beginning next week aims at increasing to 80 per cent employe participation in buying U.S. Savings Bonds by payroll deduction.

"All General Dynamics employes can be proud of the improvement made during the 1964 drive when bond buyers increased from 54 to 66 per cent Corporate-wide," Algie A. Hendrix, Corporate vice president-industrial relations, reported. "This shows employes' responsiveness to the program. However, as good as this improvement is, there are still a few 'blue chip' companies like GM and RCA that are leading us.

"The theme of this year's campaign is 'Join the Star-Spangled Savings Plan,' and we are hopeful that our non-buyers will do just that. Although it is important to save as much as you can afford, it is even more important to enroll in regular bond buying, even if the amount deducted is small.



Algie A. Hendrix

"General Dynamics divisions make the decision an easy one. All non-buyers will be contacted and in most cases it merely takes a signature to establish the deduction. The bonds themselves, in whatever denomination signified, come promptly by mail to the buyer."

The convenience of the payroll deduction system is, indeed, an "extra" benefit. It has been said that making money is not nearly so difficult as saving it. Payroll deduction is a painless answer. Besides adding to family security, Savings Bonds are readily cashable in any emergency, AND they draw substantial interest.

During 1964, General Dynamics employes bought $18 million worth of U. S. Savings Bonds through payroll deduction!



AT THE MEETING—Head table at recent Management Club meeting in El Cortez Hotel included these, from left: C. S. Ames, Convair vice president and SLV program director; Gen. B. A. Schriever, speaker of evening; James R. Dempsey, Convair president; and Algie A. Hendrix, Corporate vice president-industrial relations.

Dempsey Backs Bonds Campaign

Beginning May 3, all Convair employes will be given an opportunity either to commence buying U.S. Savings Bonds through the payroll deduction plan, or to increase their deductions if they are already regular buyers.

They will be contacted by supervisors who will be given IBM cards authorizing payroll deductions, and a tab run listing those employes who are not now participating in this opportunity to bolster their country's welfare, their company's prestige, and their financial security.

The goal of this year's U.S. Savings Bond drive is to substantially increase employe participation within two weeks.

Asking for the whole-hearted participation of all Convair employes in this effort, President James R. Dempsey said:

"All of us want to save money, and all of us want to be able to take care of emergencies and to provide for our future financial security. We can help do these things with U.S. Savings Bonds, and contribute to our country's financial security at the same time.

"Buying U.S. Savings Bonds through payroll deduction is not a contribution, it is a painless way to put a part of our pay into our own pocket, to keep."

(Parallel campaigns will be conducted at Stromberg-Carlson and GD/Electronics facilities at San Diego to encourage greater participation in U. S. Savings Bonds buying.)

Key Australian Military Men Inspect Charger During Tour

GD/Convair's Charger, multi-purpose counter-insurgency (COIN) aircraft, was viewed in flight test by two top Australian military officials this month (April 13) when Air Chief Marshal Sir Frederick Scherger and Maj. Gen. Charles Long, head of Australian Joint Service Staff, Washington, D.C., visited the division.

They were briefed on both the Charger and Dart-Convair programs by Convair President James R. Dempsey, Vice President J. H. Famme, and other Convair officials, including Harvey Tafe, Corporate director of foreign government relations.

They also planned a stop at the GD/Fort Worth division during their three-week tour of the United States, which they are making at the invitation of Gen. Earle Wheeler, chairman of the Joint Chiefs of Staff.



AUSTRALIAN VISIT — Australian Air Chief Marshal Sir Frederick Scherger confers with Convair President James R. Dempsey during inspection of Convair's Charger, multi-purpose counter-insurgency aircraft, in mid-April. Others (from left) are: R. C. Sebold, vice president - research, development and engineering; Col. Carl Carlson, USAF; J. E. Fink, project manager of close support/surveillance aircraft; Maj. Gen. Charles Long, Australian Joint Service Staff; J. H. Famme, vice president-aircraft programs; Harvey Tafe, GD director of foreign government relations; P. M. Prophett, director of product development and service. For story on Fort Worth visit, see page 5.

Geography Governs Names of Facilities

All Convair facilities, with the exception of Air Force Plant 19 (former Plant 2), are to be known by their geographical locations, eliminating numerical designations.

Plant 1 is now Lindbergh Field plant. Plant 71 is Kearny Mesa plant.

Other San Diego facilities, such as Rose Canyon, Point Loma and Sycamore Test Sites, will retain the same designations.

Guidance Analysis Chief Will Speak

Robert M. Williams, chief of guidance analysis at GD/Convair, will deliver two papers on electro-optical research at national technical societies during the next two weeks. He will speak on "Electro-Optical Space Navigation Simulation," at the April 29 meeting of ION/AIAA National Space Navigation and Communication, Houston, Texas. His paper, "Laser Electro-Optical Navigation System," will be given May 11 at the IEEE National Aerospace Electronics Conference, Dayton, Ohio.

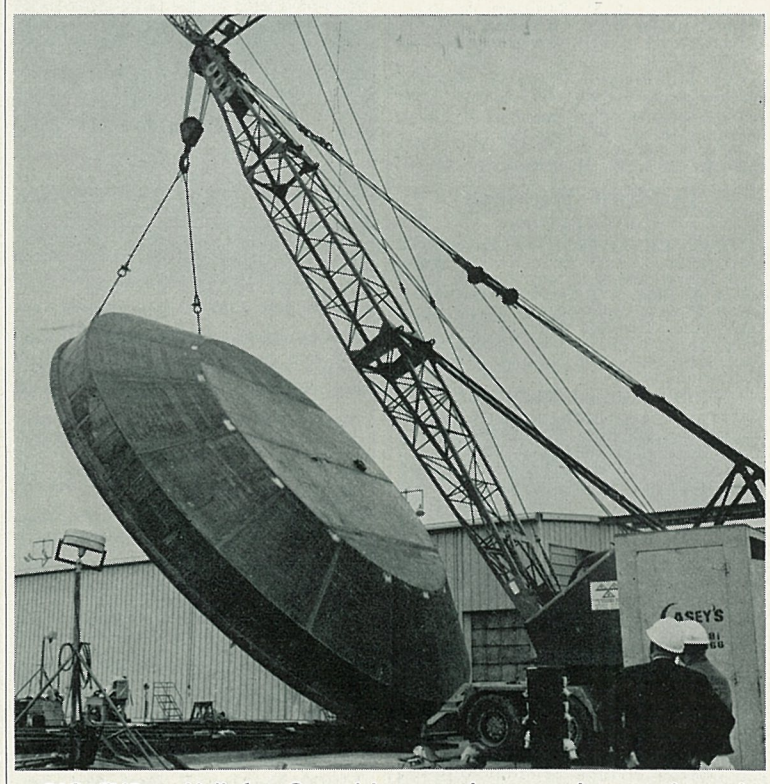
Plants Alternate Salvage Schedule

Alternating salvage yard schedule for employe sales at Convair plants the next four weeks is:

Kearny Mesa Plant—May 1, 15.

Lindbergh Field Plant—May 8, 22.

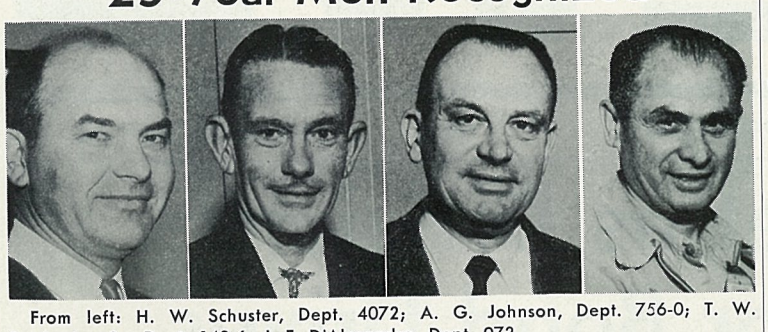
Sales hours are from 8 a.m. until noon. No children are permitted within the yards during sales as a safety precaution.



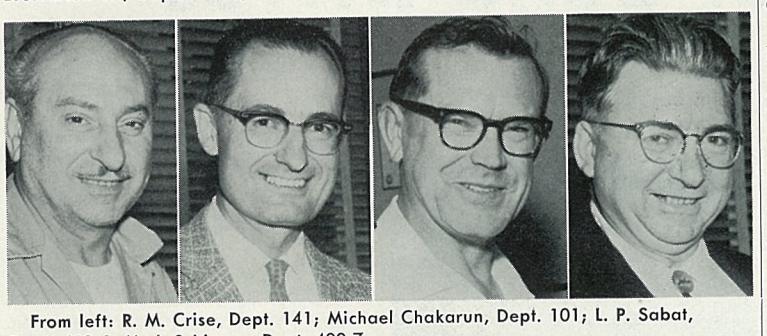
BIG FLIP — Hull for Convair's second ocean data station telemetering buoy, "Alpha," under construction at Rohr Corp., is turned right-side up early this month as it goes into final stage of completion. Assembly is scheduled for near future at Convair's seaplane ramp facility. Buoy, developed under Office of Naval Research contract, will be anchored off California coast at Point Mugu in West Coast section of test program.

Log Book Entries

25-Year Men Recognized



From left: H. W. Schuster, Dept. 4072; A. G. Johnson, Dept. 756-0; T. W. Brotherton Jr., Dept. 143-6; J. F. D'Alesandro, Dept. 972.



From left: R. M. Crise, Dept. 141; Michael Chakarun, Dept. 101; L. P. Sabat, Dept. 483-6; M. J. Schipper, Dept. 400-7.

Service Emblems

CONVAIR

Service emblems due during the period April 16 through April 30.

Twenty-five year: Dept. 48-32, H. E. Rasmussen; Dept. 101, G. R. Jacob; Dept. 115, Frank Pagliuso; Dept. 131, H. F. Whisman; Dept. 141, R. M. Crise; Dept. 311, Eldene R. Compton; Dept. 400, M. J. Schipper, S. E. Smith; Dept. 420-4, W. T. Grinsell Jr.; Dept. 523-6, V. J. Berger; Dept. 525-1, W. F. Jungk Jr.; Dept. 834-1, F. W. Buehler Jr.; Dept. 959-0, E. W. Ridpath.

Twenty-year: Dept. 6-22, Elsie P. Krauth; Dept. 93-6, J. E. Reynolds; Dept. 831-2, E. W. McCamish.

Fifteen-year: Dept. 6-21, L. M. Moore; Dept. 25-5, W. H. Hazel, P. P. Patton; Dept. 41-1, Robert Davis; Dept. 42-5, T. T. Austin; Dept. 250-3, V. W. Dimpel; Dept. 420, Florence I. Millsap, H. E. Wagner; Dept. 597-1, Charles Milstein; Dept. 744-0, C. C. Scott; Dept. 756-0, J. W. Hudson; Dept. 780-3, R. H. Steiger; Dept. 832-1, Gladys W. Ogilvie; Dept. 835-5, C. H. Fontaine; Dept. 959-0, G. F. Marlor; Dept. 963-2, J. T. Redelings; Dept. 972-0, F. S. Pyatt; Dept. 976-3, C. D. McMurtry.

Ten-year: Dept. 6-23, H. A. Brown; Dept. 25-2, R. V. Mallams; Dept. 119, P. A. Piraino; Dept. 126-0, P. A. Taschoff; Dept. 143-4, W. B. Dawson; Dept. 401-4, W. A. McGrew; Dept. 405-2, Phyllis W. Warner; Dept. 422-1, J. M. Jack; Dept. 522-6, J. J. Collins; Dept. 527-2, S. P. Rosemary; Dept. 557-2, R. B. Franch; Dept. 576-1, O. B. Abbey; Dept. 662-8, C. S. Rhees; Dept. 758-0, Joseph Rizzo; Dept. 831-1, Cathryn E. Walk; Dept. 954-0, P. R. Green; Dept. 962-1, H. D. Davis; Dept. 966-8, J. J. Garside; Dept. 976-3, J. L. Wilburn; Dept. 978-1, H. W. Wegener.

ELECTRONICS

Fifteen-year: Dept. 5082, John Olar.

Ten-year: Dept. 6867, R. W. Ern; Dept. 7085, R. O. Benson, Magdalen V. Ferguson.

STROMBERG-CARLSON

Fifteen-year: Dept. 8608, Cecile P. Hoyle.

Ten-year: Dept. 8571, J. N. Brandon; Dept. 8572, R. H. Compton; Dept. 8601, R. E. Dieter; Dept. 8732, Lola E. Jones.

Awards

CONVAIR

Employe Suggestion Awards approved for the week ending April 16.

Dept. 34-7, E. A. Rumney, $130.40.
Dept. 91-4, D. J. Gibson and D. M. Quinley (joint award), $33.10 each.
Dept. 128-0, P. R. Coburn, $37.50.
Dept. 141, John Bogen, $92.70.
Dept. 452-0, John Kernoski, $235.10.
Dept. 571-3, J. P. Robinson, $61.10.
Dept. 673-0, B. K. Williams, $10.
Dept. 780-1, W. P. Southwell, $10.
Dept. 837-0, C. V. Timms, $24.70.

Cost Improvement Proposals approved for the same period.

Dept. 116, D. W. Kennedy.
Dept. 119, L. W. Stamper.
Dept. 420-6, N. B. Powell Jr.
Dept. 597-1, W. H. Pfender.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, May 3, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field Plant, ext. 491: one hour, first shift, Tuesday, May 25, 8-9 a.m., Bldg. 14 auditorium; second shift, Tuesday, May 18, 4:30-5:30 p.m., Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

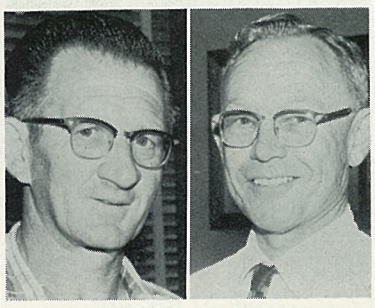
VALUE ENGINEERING WORKSHOP — Everett Lindem, ext. 1913, Kearny Mesa. Limited enrollment. Forty hours, daily, morning classes, 8 a.m.-noon, May 10-21, CRA Clubhouse auditorium, Kearny Mesa.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.



G. V. Kobets, Dept. 131, left, H. H. Frein, Dept. 102.

SOLDERLESS CONNECTIONS & HARNESS FABRICATION & INSPECTION—Jim Hanratty, ext. 1931, Kearny Mesa. Limited enrollment. Ten hours, daily, mornings, 9-11 a.m., weeks of May 3, 10, 17. Room 10, Bldg. 17, Kearny Mesa.

RELIABLE ELECTRICAL CONNECTIONS — Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 4, Bldg. 17, Kearny Mesa.

PRATT & WHITNEY RL10A3-3 ENGINE — A 20-hr. class is planned for the near future. Call Laura, ext. 1931, Kearny Mesa, for information and preferences of dates and times. Class will be taught by Pratt & Whitney personnel.

AFTER HOURS TRAINING IN-PLANT

SECRETARIAL ACCOUNTING (City College) — Jack Hanning. One semester. Each class session 3 hours, Wednesdays, 5:30-8:30 p.m., Kearny Mesa, May 12-Sept. 15. For information and reservations call Laura, ext. 1931, Kearny Mesa.

FORTRAN FOR ENGINEERS — IBM staff, ext. 1494, Lindbergh Field Plant. Limited enrollment. 32 hours. Tuesdays & Thursdays, 5-7 p.m., April 7-May 27. Room 6, Bldg. 17, Kearny Mesa.

NON-DESTRUCTIVE TESTING — D. C. Ryle, ext. 1767, Kearny Mesa. Co-sponsored by Society for Non-Destructive Testing. Tuition, $35. Total, 72 hours. Part I: classroom, 48 hours, Thursdays, 6:30-9:30 p.m., Lindbergh Field, Bldg. 14 auditorium, March 4-June 17. Part II: workshop, 24 hours, Tuesdays & Wednesdays, 6:30-9:30 p.m., Lindbergh Field shop area, May 11-June 3.

Invention Disclosures

CONVAIR

DuBRUL—D. W., Dept. 986-2. Phase-Separation in Cryogenic Transfer Lines.

EDGE—R. W., Dept. 143-6. Map Viewing Unit.

GREENSITE—A. L., Dept. 512-3. Frequency Sensor and Roving Notch Filter.

LEIB—J. E., Dept. 556-0. Pendulous Platform Inertial Guidance System.

WOOSTER—T. M., Dept. 597-1. Transaction Transmitter.

Retirements

CONVAIR

ALDEN—John, Dept. 522-7. Seniority date Sept. 19, 1956, retired March 12.

ALLEN—Helen K., Dept. 171. Seniority date Dec. 15, 1950, retired April 9.

BABITS—Victor A., Dept. 592. Seniority date Aug. 22, 1960, retired March 31.

BRADLEY—Ernest R., Dept. 93-6. Seniority date Jan. 10, 1951, retired Jan. 27.

DAVIS—Melbourne B., Dept. 3-3. Seniority date Nov. 1, 1955, retired April 5.

DORN—Theodore E., Dept. 759-0. Seniority date July 20, 1956, retired March 31.

DOWNS—Orville G., Dept. 27-6. Seniority date Jan. 10, 1944, retired March 31.

DRIESSEN—Florian A., Dept. 14. Seniority date July 3, 1947, retired March 26.

EILERS—Harold B., Dept. 556-5. Seniority date Aug. 4, 1942, retired March 22.

FOKKER—Anthony J., Dept. 6. Seniority date July 16, 1956, retired March 15.

GAUTHIER—Peter L., Dept. 835-2. Seniority date March 2, 1960, retired March 24.

HART—John D., Dept. 812-0. Seniority date May 6, 1957, retired March 29.

HENRIE—Clive, Dept. 92. Seniority date June 1, 1946, retired April 2.

LAFLER—Lester W., Dept. 170-2. Seniority date Dec. 12, 1955, retired March 3.

LINCOLN—Alma J., Dept. 60-4. Seniority date Aug. 12, 1957, retired March 30.

MICKEN—Harold E., Dept. 693-3. Seniority date April 16, 1952, retired March 31.

MINICK—John W., Dept. 336-1. Seniority date Sept. 8, 1958, retired March 26.

ROTHSTEIN—Oscar D., Dept. 42-3. Seniority date March 12, 1951, retired Dec. 28, 1964.

RUDDELL—Glenn D., Dept. 48-11. Seniority date Oct. 10, 1951, retired Jan. 26.

SCOTVOLD—Clarion E., Dept. 143-5. Seniority date June 4, 1956, retired March 26.

SHUMAKE—Willie G., Dept. 732-0. Seniority date Feb. 4, 1957, retired March 30.

STINSON—Jack W., Dept. 250-0. Seniority date Oct. 24, 1955, retired March 31.

WEINBERG—Theron F., Dept. 130-1. Seniority date Nov. 5, 1952, retired March 30.

Births

CONVAIR

ROSE—Son, Frederic E., 9 lbs., 14 oz., born April 9 to Mr. and Mrs. L. F. Rose, Dept. 145-17.

TUCKER—Son, Blaine Daniel, 8 lbs., 1½ oz., born March 15 to Mr. and Mrs. D. B. Tucker, Dept. 400-5.

Personals

CONVAIR

We gratefully acknowledge all the kind expressions of sympathy received at the death of Ann H. Stiles, Dept. 521-6.
The Stiles Family.

Baebler, King Nominated in Mgt. Club Vote

Nominees for office in GD/Convair's Management Club were approved by acclamation during the April 15 meeting at the El Cortez hotel.

Candidates for the various offices are:

President—Fred Baebler and J. R. (Bob) King.

First vice president — Lloyd Stuckey and Larry Sweeney.

Second vice president — Joe Coddou and Bob Macomber.

Finance secretary — Gary Gonlag and L. J. Solheid.

Recording secretary — Harold Hahn and Larry Hayes.

Treasurer — Art Braidic and Bob Lykins.

Three-year board of control members — Paul Green, Gordon Prentice, Clarence Strand, and Jim Woodhouse.

One-year board of control member — Gerry Cox and Fred Lee.

Ballots were mailed to club members beginning April 23 and are scheduled to be returned by May 7. Winning candidates will be announced at the May 18 meeting and will be installed at the June 19 dinner dance meeting.

The Management Clubs of the Lindbergh Field plant and the Kearny Mesa plant will hold joint meetings until the new officers take charge at the July meeting.

Gen. Schriever Calls For Bold Advances

(Continued from Page 1)

called, pointing out that although the need and feasibility of a satellite program was recognized in some quarters as early as 1951, it was not until 1957, in response to Russian space spectaculars, that we really started a program to launch satellites.

The U.S. has strategic superiority now because of decisions made 10 years ago, he said, and predicted that the decisions made now will determine our position 10 and 15 years from now.

Admitting that the "USSR is without question ahead in manned space flight," Gen. Schriever called for a "new reservoir of technical capability for new levels of U.S. achievement in the 1970s."

He predicted that man will play an important role in space and that the U.S. will be transporting "things and people" through space by the end of this century.

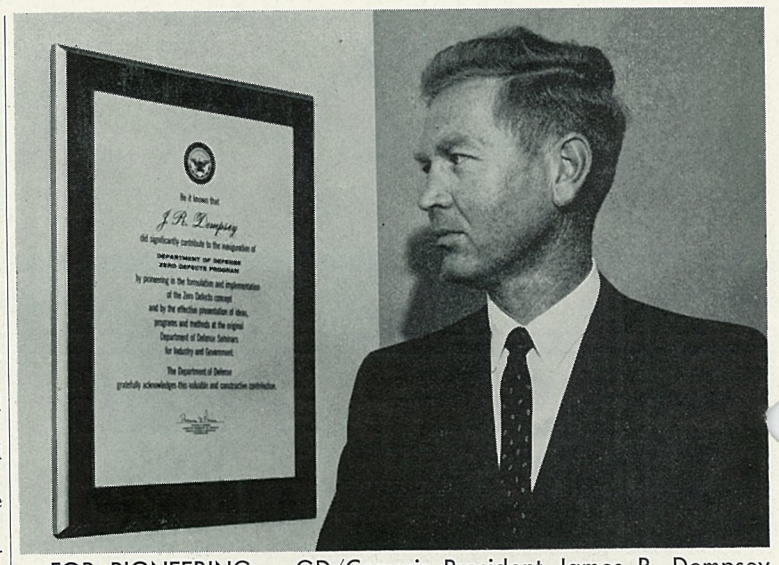
The general received a standing ovation at the conclusion of his address.

Mountain Weekend Enjoyed by Riders

Convair Riding Club members spent last weekend (April 24-25) in the mountains and desert to assist the International Trail Riders Association with the annual 100-mile endurance trail ride from San Diego to Borrego.

Club horsemen acted as spotters and checkers along the route, assistants to the veterinarian, and as official photographers for a later television presentation of the two-day trek.

Last year two club members were among winners of the long horseback ride.



FOR PIONEERING — GD/Convair President James R. Dempsey views plaque acknowledging pioneering efforts in Zero Defects-type concepts.

Plaque For Pioneering Efforts Of ZD-Type Presented Dempsey

GD/Convair's President James R. Dempsey has received a plaque from the Department of Defense acknowledging pioneering efforts and significant contribution to the Zero-Defects concept.

G. E. Fouch, Deputy Assistant Secretary of Defense, presented the plaque to Dempsey in Washington D.C.

The plaque reads:

"Be it known that J. R. Dempsey did significantly contribute to the inauguration of Department of Defense zero defects program by pioneering in the formulation and implementation of the zero defects concept and by the effective presentation of ideas, programs and methods at the original Department of Defense seminars for industry and government. The Department of Defense gratefully acknowledges this valuable and constructive contribution.

"Thomas D. Morris
Asistant Secretary of Defense
(Installations & Logistics)"

In his presentation remarks to Dempsey, Fouch stressed the fact that Convair's Zero-Defects type program, Do Good Work, considerably pre-dates most of the similar programs now in effect.



CIP LEADER—Paul Gelles, quality control engineer, left, accepts "Man of Month" honors at Management Club meeting from Club President Don Slingsby.

Paul Gelles of Quality Control Honored as Club 'Man of Month'

Paul E. Gelles, a quality control engineer in Convair's Dept. 143, won the Management Club's award as Man of the Month for March.

Four of Gelles' Cost Improvement Proposals, with a combined annual savings of $7,295 and 1,845 manhours, were approved during March.

Gelles proposed that:

1. Scrap and rejected circuit board material be given to the solder school for teaching purposes. Annual savings: $1,056.

2. Circuit board material be purchased from the vendor in a finished article size. Annual savings: $3,574 and 883 manhours.

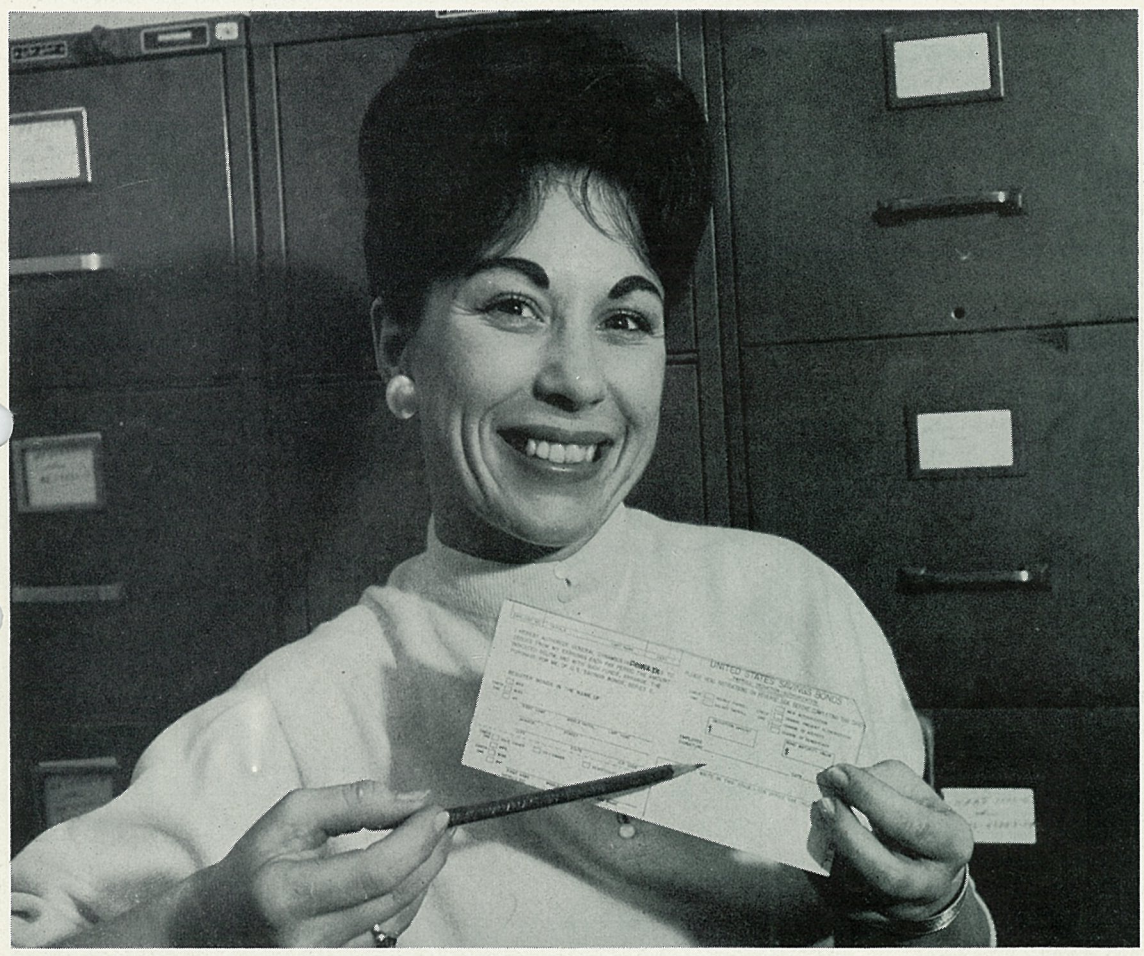
3. An improved material requiring less time to apply be used for protective covering of circuit board terminal pins. Annual savings: $1,395 and 500 manhours.

4. Plastic throw-away molds be used for binary potting. Annual savings: $1,270 and 462 manhours.

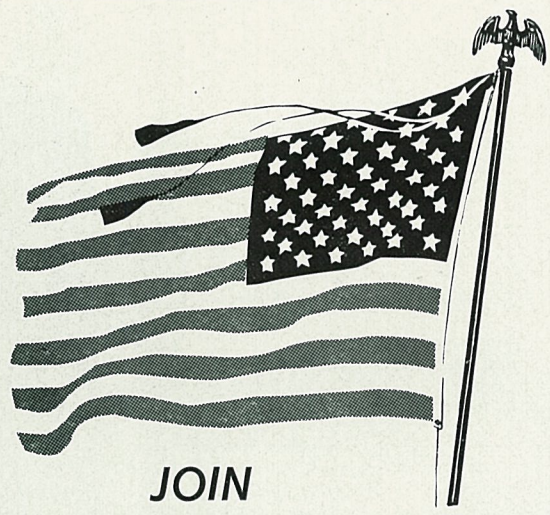
Gelles was also Man of the Month in July, 1964. He has been active in the Management Club and in cost improvement efforts since he joined Convair in November, 1962.



BETTER SYSTEM — Betty Johnson, GD/Convair's blue print control clerk at Cape Kennedy, receives $100 check for improving processing system for engineering change notices. Digby Lunjquist (center), supervisor of production control, presents check while Frank Waitkus, chief of material, adds congratulations.



HERE'S HOW — Ellen Weight, GD/Electronics material control (San Diego), points to signature line on card such as will be used to contact non-buyers during U. S. Savings Bonds campaign. All it takes is signature to authorize regular deductions for bond buying.



JOIN

The Star-Spangled Savings Plan

General Dynamics campaigns start next week Corporation-wide to encourage greater buying of U. S. Savings Bonds by payroll deduction.

Backlog of U.S. Savings Bonds Brings New Sense of Confidence

Joel A. Tate is an assistant group engineer in GD/Convair's Systems Calibration Lab at Kearny Mesa. He supervises the second shift. He and his wife, Janice, have two children.

Like the rest, he makes mortgage payments and all those other payments required in daily living.

Five years ago he signed a card authorizing payroll section to deduct $37.50 for savings bonds from his pay check.

"I just decided that I would do it," says Joel. "I knew that I had to start saving money. I had to have a systematic, reliable, easy way to make money by saving money. I chose savings bonds.

"The money I've saved gives me a sort of confidence I didn't have before. Twice I've needed money for personal emergencies. I cashed savings bonds and took care of things myself. It's a good feeling."



EVERY PAY CHECK — Joel A. Tate, assistant test lab group engineer at GD/Convair, puts $37.50 into savings bonds each pay day.

Ann McGrath of Corporate Hdq. Saves to Finance a Business

Since she joined General Dynamics in New York City six years ago, Ann McGrath, secretary to Tracy Brooks, manager of personnel placement, has been a consistent buyer of U.S. Savings Bonds. And it has been for a very specific reason.

"My husband has been planning all these years on starting his own business and my bonds will provide part of the capital we will need when the time comes, and it is not far away," she explained.

"The payroll deduction service is a systematic method of saving that is far superior to and a lot more dependable than relying on will power to put dollars away. This is one habit that I can recommend and I don't think I'll ever switch!"



GOING IN BUSINESS — Ann McGrath, attractive secretary in Corporate Headquarters, has special reason for bond buying.

★ What's the Right Size to Buy?

1. Starter size for steady savers. Small enough to be habit-forming; big enough to count up fast. Ideal gift. Worth $25 at maturity; sells for only $18.75.

2. Increasingly popular size and very big with Payroll Savers. Only $9 weekly buys one a month comfortably. Worth $50 at maturity; sells for only $37.50.

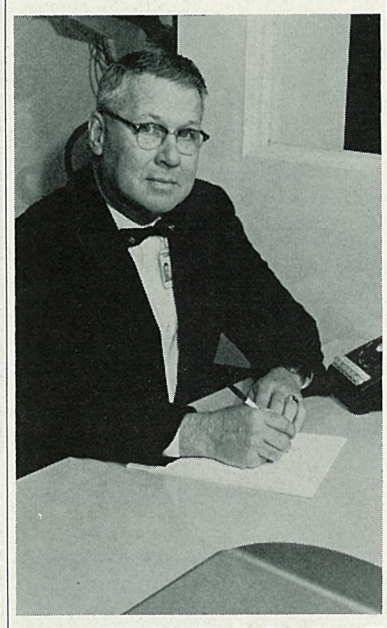
3. Brand-new size. For people who want to buy more than a $50 Bond but not quite a $100 one. It's worth $75 when it matures in 7¾ years. Sells for just $56.25.

4. If you're in a hurry to build up savings, this one's tailor-made. Buy one a month for 5 years and you'll have $4,856. Each is worth $100 at maturity; sells for only $75.

★

Savings Will Go To Retirement

U. S. Savings Bonds will supplement the retirement benefits of Newt Goddard, senior supervisor of security guards at General Atomic division.



STEADY SAVER — Bonds will supplement retirement income for General Atomic's Newt Goddard. He buys a $100 bond every month and eventually, when he needs money, will reverse procedure.

Newt, who now buys a $100 bond each month, has been participating in the payroll savings plan on a regular basis ever since joining General Atomic in 1958. He also was an inveterate bond buyer during his three years at Convair.

"I think bonds are a good investment," he said. "You can't beat the country you're loaning the money to."

Upon retirement, he plans to reverse the procedure of buying one bond a month by cashing a bond a month. He plans to use some of his extra retirement income for traveling and "lots of fishing."

Machinist 'Owes' Home to Bonds

W. T. Shelton owns a neat, 1,400-square-foot cottage on an acre of land near Grapevine, Texas, and he "owes it all" to U. S. Savings Bonds.

The GD/Fort Worth Dept. 30 machinist has had bond deductions taken from his pay check regularly since the program's inception. He has increased the deduction as his pay has gone up.

Several years ago, Shelton decided to build his "dream home." He found that virtually the entire cost of the lot and home could be taken care of by the bonds he had salted away the easy way—through payroll deduction.

"It's a mighty convenient way to save," Shelton reflected. "I truthfully don't think I would have saved money this regularly if it hadn't been taken out of my pay check automatically."



HOME OWNER — W. T. Shelton, GD/Fort Worth Dept. 30 machinist, bought home with money saved through regular payroll-deduction purchase of U. S. Savings Bonds.

Bonds Send Two Sons to College, Now They Are Buying Their Own

U.S. Savings Bonds purchased through the payroll deduction plan have provided the financial reserve used for 12 years by Virginia Anderson, GD/Pomona receptionist, and her husband to meet emergencies normal to a growing family.

"It's an easy and systematic way to save," Mrs. Anderson said. "And you just don't cash bonds to buy things like a dress or new golf clubs. I know we don't think about cashing bonds until there is a real need."

Mrs. Anderson and her husband, C. D. "Andy" Anderson of manufacturing control, had two sons to put through school when they started purchasing bonds early in 1953.

"In addition to helping Chuck (C. D. Jr.) get through Chaffey and Cal Poly colleges and Bill (W. H.) attend Chaffey College, our savings bonds provided the funds when my husband had a prolonged illness six years ago," Mrs. Anderson said. "There were other financial obligations, too, when we used our bonds. Right now it's income and property tax time."

The sons are now working at GD/Pomona — Chuck in quality control and Bill in timekeeping—and have homes of their own. "Of course," their mother said, "the boys are now buying bonds, too."



FAMILY BENEFITS — Virginia Anderson of GD/Pomona counts many U. S. Bonds "benefits."

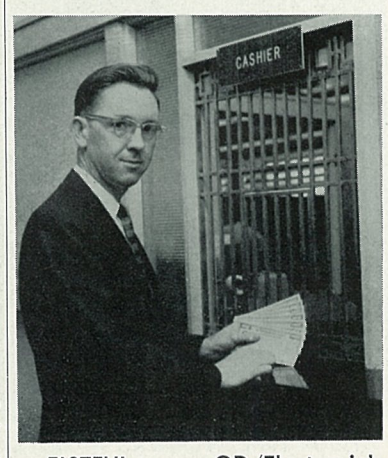
Bond Buying Seen Aid To Company

Jack Hourihan began purchasing U.S. bonds while he was in high school. He has been a consistent purchaser ever since.

Hourihan is a member of manufacturing engineering at GD/Electronics (Rochester). Each pay period, without fail, he has money deducted toward a savings bond. Bonds in the past have helped him put a down payment on his home and partially helped when he bought a car.

His motive for purchasing bonds is a double one. First, since the Government needs the support bonds render, and since General Dynamics relies in part on the U.S. for contracts, Jack feels he is in essence supporting his company and his country by buying bonds. And, he enjoys the rate of return from the investment.

"When you have bonds, you have cash available, and it is a benefit not to have to borrow when you need money," says Hourihan.



FISTFUL — GD/Electronic's Jack Hourihan has been consistent bond buyer since high school days.



PIPELINE — Last welds are made in 7,000-ft.-long pipeline which will carry 16,000 standard cubic feet of air per minute to greatly increase capabilities of GD/Convair's low-speed wind tunnel. Air source is General Dynamics' high-speed wind tunnel, across airport. Watching welder is Convair's H. A. Buehler of plant engineering (right) and Edward Kimbrell, job superintendent for Technical Construction Co.

New Pipeline Ups Capability Of Low-Speed Wind Tunnel

A pipeline, over a mile and a quarter long, has been laid in record time from the General Dynamics high-speed wind tunnel at the San Diego seaplane ramp to provide an auxiliary air supply for the low-speed wind tunnel on Pacific Hwy.

The eight-inch seamless steel line will carry 16,000 standard cubic feet of air per minute to increase the low-speed wind tunnel's capabilities many times over. Volume is five times more than before and pressure increased tenfold, explained John Struthers, aerodynamics laboratory group engineer in charge of the low-speed wind tunnel's operations.

"This additional air supply makes possible investigation of high-lift (V/STOL) plane configurations requiring use of compressed air for boundary layer control," Struthers said. "Also, we now can simulate conditions for testing jet exit configurations for commercial and military aircraft of the present and future which could land and take off in much less distance than now required."

The pipeline connects with the high-speed wind tunnel's air source — six tanks containing 82,000 pounds of air at 600 pounds pressure per square inch. Pressure when air reaches the low-speed wind tunnel is reduced to a maximum of 300 psi.

The line was laid in a circuitous route south along Harbor Drive, crossing under the main thoroughfare at the Coast Guard station, then along the south side of Lindbergh Field, around the end of the main runway in front of the blast fence, then north directly in front of the terminal and around the building's corner to the low-speed wind tunnel building.

Five welding crews and 10 graders speeded the pipe laying days until they reached the airport's blast fence. During the last week work was shifted to 12:30 to 6:30 a.m. to avoid interference with airport traffic.

The pipeline, over 7,000 feet long, was laid in just a month in spite of heavy rains, by Technical Construction Co. of Wilmington, Calif. Randolph-Johnson-Miller & Associates of Long Beach was the consulting engineering firm. Convair plant engineering under W. J. Stanley, manager, coordinated the project with H. A. Buehler, project engineer, and W. H. Skoglund, field engineer.

'Space Anthropology' Subject of Lecture

B. F. Pierce of GD/Convair's life sciences section will talk on "Aerospace Anthropology," April 28 at 7:30 p.m. in the auditorium of the San Diego Museum of Natural History in Balboa Park.

Pierce's lecture, sponsored by the San Diego Science Foundation, concerns the role of both physical and cultural anthropologists in the study of interrelationships between man and modern technology.

The one-hour talk, free to the public, will be illustrated with slides and special man-in-space equipment will be demonstrated.



FOUR-TIME WINNERS — GD/Convair employes at MAB-5, Vandenberg AFB, receive space cards from D. A. Munizza, (leaning over table), site manager, for their fourth win as Craftsmen of Month. Quality index of 110.3 returned MAB-5 to winning column after group had won in May, June, and July of 1964.

Convair Couple Help in Crash

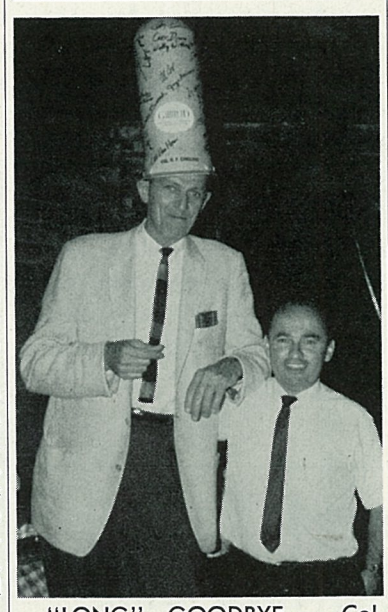
An anonymous letter recently brought to light the quick response of a Convair couple when a privately owned helicopter crashed last month near Highway 395.

Two Convair men, Kenneth S. Coward, Dept. 583, and Charles C. Love Jr., Dept. 584, had been up for a test hop before reporting for work when the helicopter lost power and crashed shortly after 7 a.m. At that moment, Mr. and Mrs. Eric Haars, also of Convair, were driving on the highway en route to the Kearny Mesa plant. They pulled off the road and ran to the wreckage. Haars helped pull Coward, injured and semi-conscious, to a safe location and Mrs. Haars covered him with her coat. They left the scene as soon as police arrived.

The Haars' part in the incident might have gone without notice had it not been for an unsigned letter to Convair President James R. Dempsey which ended: "So often we read of people just standing around and watching someone that needs help. I think when people do run risks to help others they rate a vote of thanks."



COUPLE TRACED — Eric R. Haars, Convair Dept. 843, and wife Jamie, Dept. 956, examine unsigned letter that praised their help in helicopter crash.



"LONG" GOODBYE — Col. R. P. Gingland (left), chief of Atlas Weapon System Project Office at AFBSD, said fond farewell to friends at Kearny Mesa plant on eve of transfer to Washington, D.C. Stovepipe hardhat is signed by host of Gingland's "big" friends, including SLV's Bob Daly (right).

Zorrilla Assumes Diver Presidency

Jorge Zorrilla, well known in skin diving circles, assumed presidency of the reorganized Convair skin diving club this month. The group, combining CRA and former ARA members, will retain the CRA club's name, Delta Divers, by which it has been known since formation over 10 years ago.

Other officers are Francis Harvey, vice president; Chuck Davis, treasurer; and Sharlene McMurry, secretary.

Meetings will be held the second Wednesday of each month, 7:30 p.m., in the CRA Clubhouse, Kearny Mesa.

GD/E and Stromberg-Carlson Create Separate Con-Tribs

GD/Electronics and Stromberg-Carlson facilities at San Diego have established separate Con-Trib-Clubs with funds of the former GD/E Con-Trib-Club divided between the two new groups on a percentage basis.

Division of monies was made following the annual audit by Clyde D. Powell, San Diego certified public accountant, at the end of the fiscal year, Oct. 31, 1964. Amounts going to each Con-Trib-Club were based on percentage of participation by employes of each facility at that time—GD/E, 57.1 per cent, and S-C, 42.9.

With the addition of income from payroll deductions received from Nov. 1, 1964, through Jan. 31 of this year, the S-C Con-Trib-Club starts operation with $10,307.78 and an increased participation of 76.7 per cent. GD/E Con-Trib-Club funds amount to $13,732.84.

New committees now are being formed under chairmanship of J. W. Swank, S-C manager of industrial relations, and George W. Leesch, manager of GD/E industrial relations. Each employe's committee will hold monthly meetings to adminster contributions to the United Community Services, other charities and philanthropic organizations as well as emergency cases within GD/E and S-C. Stromberg-Carlson's current 1965 pledge to UCS is $6,500 and GD/E has pledged $8,500 for the year to be paid in quarterly installments.

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GD/E and S-C Report on Con-Trib

(Following is an accounting of funds re'ative to GD/Electronics Employes' Con-Trib-Club affairs, as well as transfer of funds to Stromberg-Carlson Con-Trib-Club as of Jan. 31, 1965.)

	GD/E *57.1%	S-C *42.9%	Total
Balance in Charity Fund Oct. 31, 1964	$ 5,718.66	$ 4,296.51	$10,015.17
Less Liabilities Applicable to the Fiscal Year Ended Oct. 31, 1964 But Paid After Oct. 31, 1964:			
4th Quarter 1964 Pledge United Community Services	2,569.50	1,930.50	4,500.00
Research Foundation	114.20	85.80	200.00
Salvation Army	71.38	53.62	125.00
Accounting services to 12/31/64	42.82	32.18	75.00
Auditing services	71.38	53.62	125.00
Total Liabilities	$ 2,869.28	$ 2,155.72	$ 5,025.00
Adjusted Balance in Charity Fund Oct. 31, 1964	2,849.38	2,140.79	4,990.17
Balance in Emergency Aid Fund Oct. 31, 1964	1,228.19	922.76	2,150.95
Balance in Home Federal Savings and Loan Dec. 31, 1964	4,381.56	3,291.93	7,673.49
Balance in San Diego Federal Savings and Loan Dec. 31, 1964	1,169.86	878.93	2,048.79
**Add Combined Income to Jan. 31, 1965			
Payroll Deductions Nov. 1964	1,213.30	888.84	2,102.14
Payroll Deductions Dec. 1964	1,677.30	1,261.95	2,939.25
Payroll Deductions Jan. 1965	1,213.25	922.58	2,135.83
Total Con-Trib-Club Fund Available to GD/E and S-C at Jan. 31, 1965	$13,732.84	$10,307.78	$24,040.62

*Based on Headcount W/E Nov. 1, 1964.
**Payroll Deductions Were Received from Each Division Separately and Use of Above Headcount Percentages Was Unnecessary.

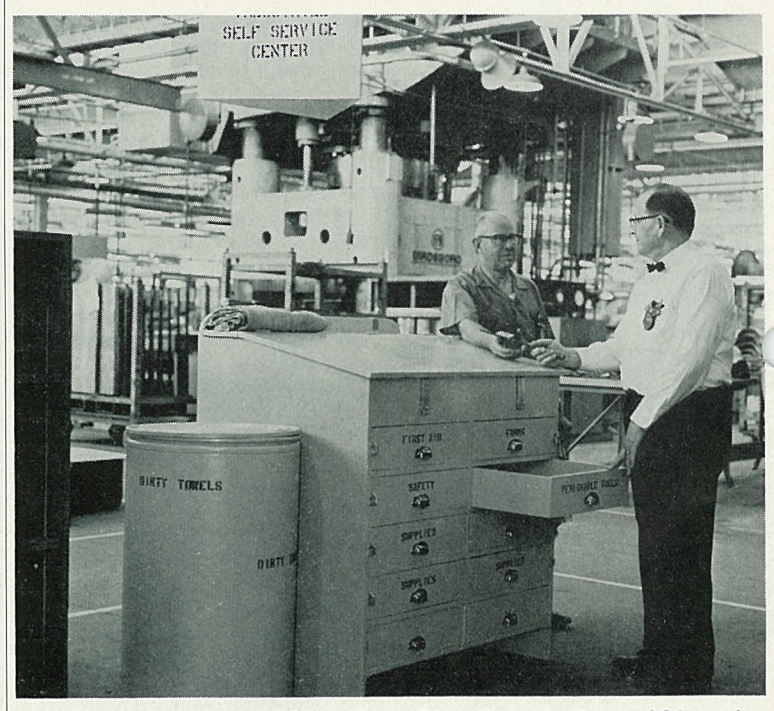
'Self Service' Centers Eliminate Lost Hours and Miles of Walking

A team of supervisors in Convair fabrication at the Lindbergh Field plant put their heads together to come up with the idea of centralizing common tools and supplies in convenient locations to save employes hours of time and miles of walking.

A survey, spearheaded by G. K. Cox, foreman of sheet metal and processing, showed that untold hours were spent going back and forth to far distant tool cribs just to check out such constantly-used items as shop towels or small tools, or to employe services for forms of any kind. And, for the second shift it was especially difficult to obtain working tools when the only tool crib open was buildings away.

Now, employes can obtain practically anything they need—small perishable tools, shop towels, safety glasses, aspirins, cold tablets, salt tablets, forms for insurance, bond deduction, change of address—from Industrial Self Service Centers spotted throughout Bldg. 1 area. Hourly employes may help themselves to towels at any time and get other items checked out to them by their supervisors.

All of the eight units are supervisors' desks with drawers built in. Eventually, similar centers will be placed throughout other areas wherever they will be of the most use.



SELF SERVICE, ALMOST — Ross Dix, Convair Dept. 001 assistant foreman (right), checks out file to Kenny Walker, leadman in layout area, at one of new "self-service centers" set up in Dept. 001-002 for convenience of workmen.



ON THE LINE—Manufacturing operations at Convair's Lindbergh Field facility is stepping up with production of C-141 empennages for AF jet transport gearing for seven-a-month move-out (upper and lower photos at far left); expansion of electrical bench on double-deck mezzanine in Bldg. 2 (upper center); Dart-Convair modification to turbojet version (upper right shot showing prototype with Rolls-Royce engines installed); Little Joe II launch vehicles in various stages of production in Bldg. 5 (lower center); and (at lower right) assembly of instrumentation for TEL-4 telemetering systems to be integrated in Merritt Island, Fla., Central Telemetering Bldg.

C-141 Empennage Output Nears Three-Day Move

C-141 empennage production at GD/Convair is girding itself for a three-day line move as the schedule heads toward shipment of seven a month in June.

Convair is building 134 of the huge tails for the Air Force Starlifter jet transport under a subcontract from Lockheed-Georgia Co.

At present, production is on a combination of a three-day line move in certain sub-assembly and major assembly operations and a four-day move for shipping, explained N. P. Pearson, C-141 foreman. By the middle of May all operations will be geared for a three-day move from sub-assembly straight through to shipment. Ship No. 47 will be the first sent out on the speeded-up schedule.

Five empennages were shipped to Lockheed-Georgia's Marietta plant this month—No. 44 leaves tomorrow (April 29). Six will go out in May, with seven scheduled for move-out in June and the months to follow.

Contract Continues Terrier, Tartar Work

The U. S. Navy awarded a $2,192,845 contract to General Dynamics/Pomona last week for continued production of Terrier and Tartar guided missiles.

Both of the supersonic missiles provide anti-aircraft protection to the fleet and have been in production at Pomona for several years.

Terrier, which became operational in 1955, now arms 30 U. S. Navy ships. Tartar missiles are carried by 26 warships.

F-111 Short Takeoff-Landing Ability Called Ideal For Australia Defense

The F-111's "long-legs" and its short takeoff-landing performance "make it ideally suited for Australia's defense purposes."

That was the statement recently of Sir Frederick Scherger, air chief marshal of the Royal Australian Air Force, when he and RAAF Maj. Gen. C. E. Long stopped at GD/Fort Worth.

Sir Frederick explained that the F-111's "long legs" that is, ferry and combat range — will make it effective from bases in Australia, and that its takeoff and landing performance enable it to use existing bases.

Under an arrangement between the Australian government and the U. S. Department of Defense, Australia will purchase 24 of the F-111s for the RAAF.

The Australians were accompanied to Fort Worth by Col. Carl R. Carlson of USAF Headquarters in Washington.

At Fort Worth, Sir Frederick and General Long were briefed on the F-111 program by Frank W. Davis, GD/FW division president, and J. T. Cosby, vice president and F-111 program director.

As they inspected F-111s on the flight line, operation of the supersonic USAF-Navy fighter-bomber from the pilot's viewpoint was given them by R. L. Johnson, first F-111 pilot and division director of flight.

They then watched as pilot Johnson and co-pilot Earl R. Guthrie made the April 16 takeoff which was the 20th flight in the F-111 flight test program. The one-hour and 35-minute flight included operations up to Mach. 1.2 at 30,000 feet.

For Johnson, who piloted the F-111 on its first flight Dec. 21, 1964, the April 16 flight was the 14th F-111 flight test. For Guthrie, it was the first.



'INSIDE STORY' — Sir Frederick Scherger, air chief marshal of Royal Australian Air Force that is due to use F-111s, got "inside story" as he sat in F-111 cockpit on flight line at GD/Fort Worth. Briefing him was R. L. Johnson, Fort Worth division director of flight.

Value Engineers Attend Convention

Three GD/Convair value engineering experts were on the agenda at the national meeting of Society of American Value Engineers (SAVE) last week, April 21-23, in Boston, Mass.

E. D. Heller, Convair manager of cost reduction and value control, spoke on "Professionalism in Value Engineering." W. J. Ridge and G. M. Loudermilk, both Dept. 192-0, collaborated on the paper, "For Value Received."

17 at Convair Seek Peace Corps Posts

Dick Netolichy, Peace Corps representative, reported that as of April 21, the Corps has received 17 applications from GD/Convair employes. Five employes were interviewed from the Lindbergh Field plant and 35 from the Kearny Mesa plant.

Convair Facility Called 'Ultimate' in Clean Room

An absolute filter is one that filters 99.97% of the contamination particles from the air that have a diameter larger than one-third of 40 millionths of an inch.

GD/Convair's super clean room at the Kearny Mesa plant has an entire wall made of absolute filters!

"This is the ultimate in clean rooms," said W. R. McKinney, group leader in Dept. 551.

"It gives us more technical capability to explore new design approaches, investigate problem areas, and quickly incorporate design modifications regarding inertial components."

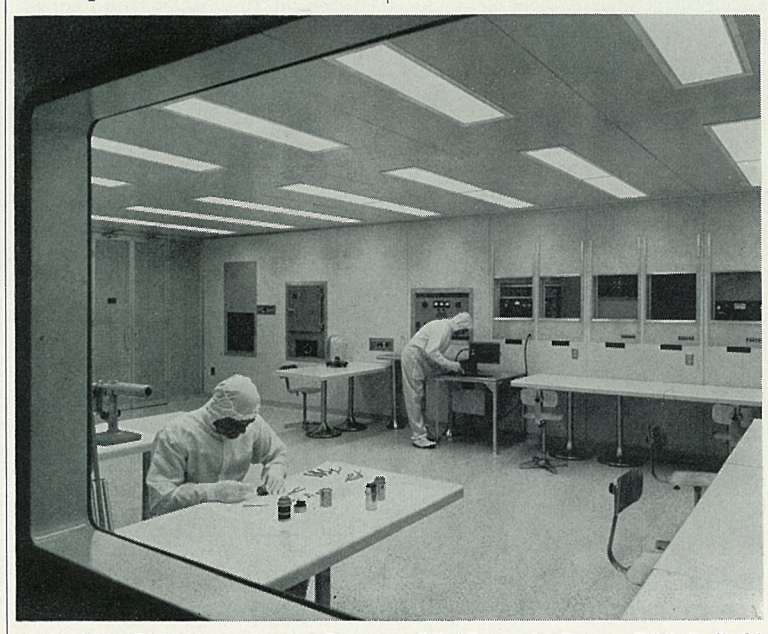
Technically named the Inertial Controls Clean Room Facility, the super clean room provides the kind of environment required to work on instruments and components (mostly gyros and accelerometers) that would be contaminated by normal air condition. Filtered air enters the room through the entire wall at one end of the room (the inlet chamber) and moves across the room at about 100 feet per minute to a wall of outlet louvres. This is an improvement over conventional clean rooms where turbulence and eddy currents tend to trap small particles and keep them in the air around instruments and components.

Room furnishings and equipment present as little frontal area in the direction of air flow as possible. This, too, reduces the possibility of eddy currents. Test equipment is flush mounted in wall panels; this permits service and adjustments from outside the super clean room.

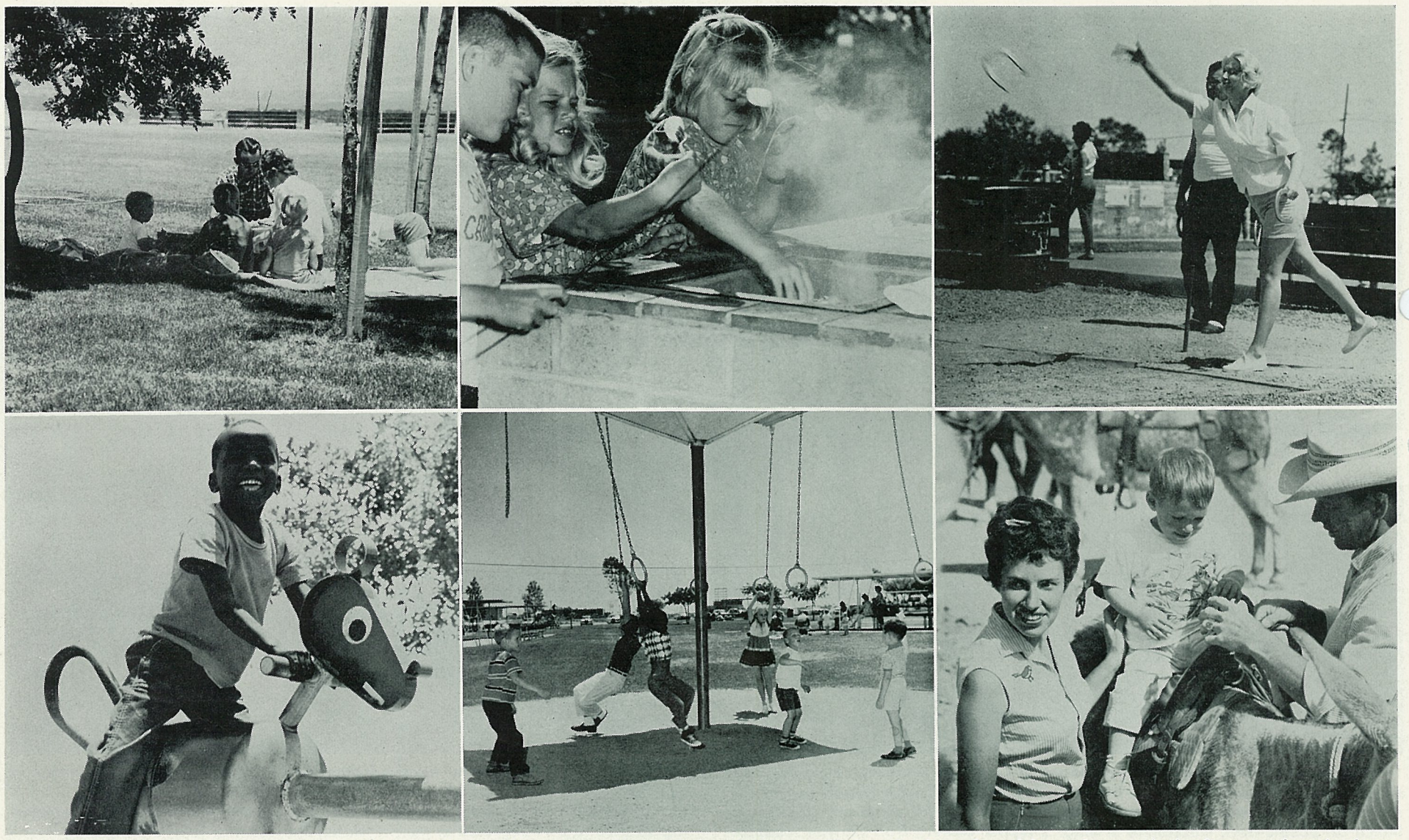
Also, there are three pass-through stations in the walls of the room so that equipment can enter without the necessity of being carried in by workers. There are vacuum stations where equipment and components may be cleaned before they enter.

The entire clean room covers 1,011 sq. ft. This is divided into four areas: (1) an entry and locker room where workers remove street clothes, wash up, clean shoes, and pick up sealed bags containing hood, smock, gloves, and shoe covers. (2) dressing room where workers put on clean room apparel. (3) The super clean room itself where the work on components and instruments is done. And (4), a "gold" room where thin films are deposited on circuit boards. The gold room gets its name from the fact that the room is flooded with amber, or gold, light required by the properties of the materials used in thin films.

Other than being a clean place to work, the room is also pleasant. The temperature never goes above 72°F or below 70°F.



SUPER CLEAN — Steve Ganzy, GD/Convair Dept. 780-2 (left) and Harold Rodgers, Dept. 551-1, are shown in Inertial Controls Clean Room Facility at Kearny Mesa plant.



WEEK-ENDERS—Recreation facilities adjacent to Kearny Mesa plant do good business as families congregate there for weekend picnics. Although it is largely a "child's world" there is plenty for adults to do, too. And, of course, there is always the most fun of all for a parent, watching the kids have a ball.

CRA Calendar

(Convair Recreation Association has 40 activities in operation for Convair, GD/Electronics, Stromberg-Carlson employes. For information call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for news for next issue of GD/NEWS is May 5.)

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BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BASEBALL — Workouts for Convair entry in city league May 2 and 9, 10:30 a.m., Golden Hill Playground, 28th & Ash.

BOWLING — Register now for May 15-16 plant championship tourney, Clairemont Bowl. Call Forest Erwin, ext. 2884, Kearny Mesa. Sign for summer leagues through Mike Brooks, ext. 410, AF Plant 19.

CERAMICS — Classes Tuesday and Thursdays, 10 a.m.-2 p.m. and 7-11 p.m., CRA Clubhouse, Kearny Mesa.

DRAMA — One-act play, "And Bon Voyage," CRA Clubhouse, Kearny Mesa, May 1, 2, 7, 8. Admission $1.50.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Meeting May 5, 7:30, Floral Association Bldg., Balboa Park. Orchid open house Sunday (May 9), Everett Henderson home, 3503 Yosemite St.

GUN CLUB — CRA club shoot May 2. Skeet shoot May 8-9. Both at Gillespie Field Range.

ICE SKATING — General Dynamics skate nights, Thursdays, 6-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot May 9, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting May 5, 7:30 p.m., CRA Clubhouse, Kearny Mesa.

RIDING CLUB—Meeting May 12, 7:30 p.m., CRA Clubhouse. Riding classes start today (April 28), CRA horse ring, Kearny Mesa. Call Joe Pena, 277-6429.

SCULPTURE — Workshop instruction Monday evenings, 7:30 p.m. Call Clubhouse.

SNOW SKI — Club meeting May 4, Catamaran Hotel, Mission Blvd., 8 p.m.

SPORTS CAR CLUB — Meeting May 5, 7:30 p.m., Convair executive dining room, Pacific Hwy.

TRAILER CLUB — Meeting May 4, 7:30 p.m., CRA Clubhouse, Kearny Mesa.

TROPICAL FISH — Meeting May 10, 7:30 p.m., CRA Clubhouse, Room C. Call Dick Rowe, ext. 2105/2193, Kearny Mesa, for information on workshop sessions.

FOUR TEAMS ENTER VOLLEYBALL LOOP

Four CRA volleyball teams are entered in the Industrial Recreation Council 8-team league playing Thursday nights, 7 and 8 p.m., on Muni Gym courts, Balboa Park. The Convair teams are Test Lab, Flight Control, Beavers, Noise Boys. They played first games April 15.



FOR LONG LUNCH — Marie Russell, GD/Convair Dept. 143-3, prepares to serve 200 people from 5 ft., 6 in. sandwich brought to associates by Joe Marzza, Dept. 780-4. Bread weighed 14 lbs., contained 9 lbs. of lunch meat and cheese.

Fatigue Prediction Method Under Study

A study contract has been awarded GD/Convair by NASA's Lewis Research Center, Cleveland, Ohio, to verify the "Smith Method," developed by Clarence Smith, Convair fatigue specialist, for predicting the fatigue life of complex structures.

The Smith method is based on knowledge of smooth bar fatigue data plus a single life test of the actual structure. Smooth bar fatigue properties will be estimated from the Manson-Hirschberg (NASA) method of relating ordinary mechanical properties to fatigue.

The method, if verified, would be applicable to complex structures where nominal stresses and stress concentration factors are unknown.

Amount of the contract is $12,954 with completion date scheduled for this coming September.

Estimating Society Plans May 4 Tour

Members of the Industrial Estimating Society of San Diego will tour the Buick-Pontiac assembly plant at South Gate, May 4. Society members will be briefed on costing systems at the plant.

Tickets, $7.50 each, include bus transportation, refreshments on the bus, and a steak dinner. The bus will leave the Convair Kearny Mesa plant at 4 p.m. Call Bill Quackenbush, ext. 2240, Kearny Mesa.

Skeet Shoot Slated At Gillespie Field

A registered skeet shoot, open to all General Dynamics shooters, will be held Saturday and Sunday (May 8-9) at Gillespie Field Gun Range, with trophies going to winners.

Frank Marchant, range master, urges all marksmen to turn out for the event. Over 5,000 birds were thrown in the last skeet shoot, Marchant reported.

JERRY COOPER ROLLS 299 GAME

Jerry Cooper (Dept. 831-1) blasted a near-perfect game, 299, while bowling at El Cajon Bowl recently. After 11 strikes in a row he was stopped by the 3-pin on his last ball. The game was logged in an open pot game.

51 Marksmen Fire For Cash In Easter Sunday Trapshoot

Fifty-one marksmen aimed at purses in registered ATA trapshoot competition on Easter Sunday at the CRA Gun range, Gillespie Field. Two dollars of each entry fee was tabbed for cash prizes.

J. O. Chilton of San Clemente and George Ross, Fontana, split $6 when they tied with 95s to top Class A in the 16-yd. event.

Don Estes of Lakeside won Class B with a 96 for $15.60. Lee Myer of Lemon Grove was second with a score of 95 to take home $10.40.

George Skurla of San Diego and Arthur Berry of Lemon Grove both scored 94s to win $11 apiece in Class C.

Class D was won by John McCully of Coronado with a 95. He received $13.20. Second place was tied up with Jack Mann of Lemon Grove and Fred Plock of San Diego both shooting 90s. They each won $4.40.

First in Class E was Ellis Rhodes of San Diego, 86, $8.40. Paul Robeson, also of San Diego, was second with an 85. He won $5.60.

Midge Higginbotham of San Diego shot an 86 to win high lady honors and $6.

In handicap $2 of each entry fee was divided on a 40-30-20-10 percentage basis for the four top places.

First and second-place purses were split between Jim Prewitt of Spring Valley and Berry who tied at 94. Each won $21.

George Harbaugh of El Cajon shot a 90 for third spot and $12. Fourth place and $6 went to McCully, 88.

Cora Brusaw traveled all the way from Casper, Wyo., to shoot a 95 for $2 as high lady. George Ross won the doubles and the $10 purse with a score of 90.

Drama Club Hosts Stagecraft Winners

CRA Drama Club will host the winners of Stagecraft Theatre's fourth original one-act tournament May 1, 2, 7, and 8. This will be the first time the winners have appeared in the CRA theater.

The CRA player's entry "And Bon Voyage," written by Frances Burnett and directed by John D. Cone, concerns love's young dream, all at sea.

Cast includes Lillie Mae Barr, Ann Marie Ender, Bob Ross, Helen Victoria French, Garry White, and Joe Glasgow. Curtain time in CRA Clubhouse theater is 8:30 p.m. Tickets, sold at the door, are $1.50 each.

Persons, with or without experience, who are interested in Drama Club activities, please call Jack Garrison, ext. 765, Kearny Mesa.

TWO TRANSFER

A farewell party was held last week for Bert J. Wood and Kass Verseckes of cost accounting. Both are transferring to GD/Fort Worth.

Knutson and Ranscht 'Duel' With Pistols

J. S. Knutson and Warren Ranscht ran neck-and-neck in a marksman duel at CRA Pistol Club's April 11 matches with Knutson taking the master event of the Police Course and Ranscht barely edging Knutson for top spot in the Short National.

Knutson's 297 was just two points ahead of Ranscht's score in the .22-cal. Police Course master class. They tied with 288s in .22-cal. Short National competition with Ranscht's 12 Xs outpointing Knutson's 7.

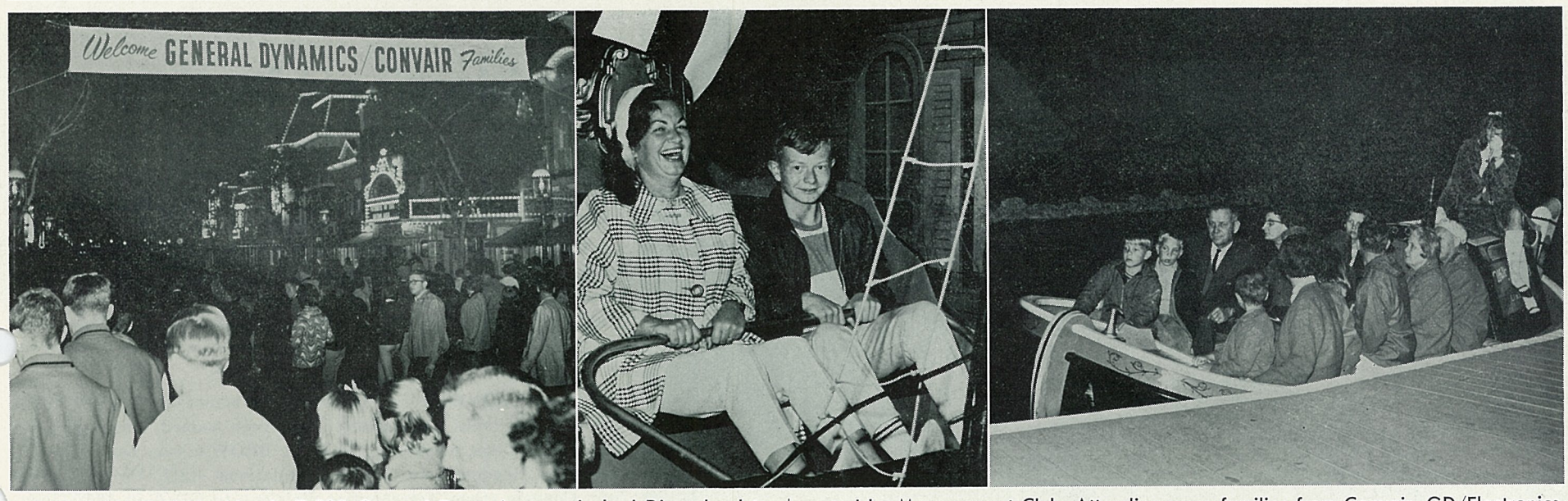
Dale Young took first in Police Course expert class with 282. Bill Worthington was second with a 272. In sharpshooter class F. Lewis led with a 248. Byron Clapper shot 239 for second spot.

Commissioner Joe Williamson was just one point behind the Short National leaders with 287. Only another point separated third and fourth positions with Roscoe Anderson scoring 286.

McGregor Elected Head of Rifle Club

Bob McGregor of Convair engineering has been elected president of the Convair Rifle Club to replace Gerry Blumenthal, who has left the company.

The group met for its monthly meeting last week (April 21) at Gillespie Field Clubhouse at the same time Junior Rifleers gathered for their regular session.



DISNEYLAND FUN—Nearly 7,500 General Dynamics people had Disneyland to themselves for GD/Convair-sponsored night March 27. Arrangements were coordinated by Management Club. Attending were families from Convair, GD/Electronics, Stromberg-Carlson, General Atomic, Vandenberg AFB, Los Angeles office.

Call Out For Players To Form Baseball Team

A call is out for baseball players from Convair, GD/E, and S-C, either employes or dependents, to try out for Convair's entry in the city summer baseball league.

Workouts will be the next two Sundays, May 2 and 9, 10:30 a.m. at Golden Hill Playground, 28th and Ash Sts. League play will start in early June.

Don Sanchez, manager of the Convair team, asks any player who can not make the workouts to call him at ext. 3121, Kearny Mesa.

Tennis Tourney Set For Management Club

Convair Management Club has scheduled its annual spring tennis tournament the last two weekends in May (May 22-23, 29-30) on Morley Field courts, Balboa Park.

Trophies will go to winners and runners-up in singles and doubles in novice, intermediate and advanced divisions. Trophy fee is 50 cents per individual for each event.

Registration must be made before May 15 in order to reserve the courts. Call Ray Hardy, ext. 2549, or Bob Herold, ext. 3392, both at Kearny Mesa plant.

Toastmistress Club Seeks New Members

Serra Mesa Toastmistress Club invites all Convair women, whether employes or wives, to gain self-confidence and poise by participating in the speech club's activities as members kick off their annual membership drive.

Interested women are asked to call Elinor Slater, president, ext. 2571, Kearny Mesa, or Scarlett Smith, membership chairman, ext. 1313, also Kearny Mesa.

Meetings are held the first and third Mondays of each month, 7:30 p.m. in CRA Clubhouse, Kearny Mesa.

Riding Lessons Starting Today

Riding lessons at reduced rates begin today (April 28) under CRA sponsorship for members of the Convair Riding Club.

The 10-class series is limited to club members only.

Classes for beginners, intermediates, advanced will be taught Wednesdays by Wes and Lynn Whitlock for both adults and children. Instruction begins at 5 p.m. and will last at least an hour in the CRA horse ring at the Kearny Mesa recreation area.

All interested members may call Commissioner Joe Pena at his home phone, 277-6429, for details.

The CRA club has launched a membership drive with the beginning of the new club year this month. Yearly dues of $3 per family entitle all members to take part in the club's horse shows, trail rides, meetings, and yearly mountain trip to Los Caballos Horse Camp. This year's outing is set for July 10-11.

Families do not need to own a horse to join, as CRA-owned horses may be rented at nominal rates. Also, new stables, Mountain View Ranch, now have been established south of Bldg. 92 on S. Ruffin Road where club members may stable their horses on a cooperative basis. Information may be obtained through 277-0371.

Prospective members may sign with membership chairman Boyd Spencley, home phone 276-3954.

Mammoth Weekend Last For Season

CRA snow skiers may sign the rest of this week for the May 8-9 weekend outing, last of the season, to Mammoth Mountain.

Price tag for the package deal is $20 per person. This includes transportation, two nights lodging in the reserved A-frame ski chalet, and Saturday night steak fry.

Call Commissioner Joe Harris at his home phone, 284-0278.



BASKETBALL CHAMPS — Winners of CRA slow-break basketball shop league are members of I.B.J.O.B. team. Back row, left to right: Ralph Jones, Bob Perin, Jim Cramer, and Chuck Reid. Front: Gordon Place, Chuck Wagner, Leo Stone, and Bob Wergen. Photo by Don Gable.

Sports & Recreation

2,000 Spectators View Blooms At Garden Club's Annual Show

CRA Garden Club's Spring Rose Show drew the largest number of spectators at any club-sponsored show ever presented when over 2,000 viewed exhibits April 11 in the Floral Association Bldg., Balboa Park.

"Although there were only 300 entries because of the extremely bad weather just before the show, the acceptance by the public was tremendous," said Co-commissioners Everett Henderson and Gene Zimmerman.

Henry Boyd was awarded "best bloom" honors for his dark red Oklahoma entered in the class for newly-developed roses exhibited for the first time.

Mrs. A. E. Hornby, winner of the best design arrangement, will have her name engraved on the Ona Mae Carroll Memorial Award, donated by Arnold Carroll in memory of his wife.

Other "best of show" prizes, flower arrangement bowls, went to Henry and Margaret Boyd, Dennis Zimmerman, Mrs. Felix White, Carolyn Buman, Janice Zimmerman.

Blue ribbon winners were: Arnold Carroll, Mr. and Mrs. Henderson, Mr. and Mrs. White, Evelyne Thrall, Mr. and Mrs. Boyd, Mr. and Mrs. Zimmerman, Isabelle Cole, J. H. Powell, Mr. and Mrs. Jim Buman, Mr. and Mrs. Hornby, Mr. and Mrs. Kenneth Spann, Bill Spann, Stuart Williams, Mr. and Mrs. W. J. Cole, M. Walsh, Mr. and Mrs. Clayton Finley, Mr. and Mrs. Robert Bradshaw, and Janice Zimmerman.

Membership in the CRA Garden Club is open to all Convair employes and their immediate families. Meetings are held the first Wednesday of each month in the Floral Association Bldg. with some of the outstanding gardening experts in the area appearing on the monthly programs.

For information on the club and its activities call Henderson at ext. 2861, Kearny Mesa.

Gardeners to Hear About Root Cuttings

CRA gardeners will learn the fine points of starting plants from cuttings at the May 5 meeting of the Garden Club, 7:30 p.m., in the Floral Association Bldg., Balboa Park.

A demonstration will be given on making rooted cuttings of dahlias, chrysanthemums, and fuschias.

Co-commissioner Everett Henderson invites all members and friends to view his orchids during an all-day open house Sunday, May 9, at his home, 3503 Yosemite St., Crown Point area of Pacific Beach.

Trapshoot Jackpot Begins to Build up

Thirteen entries vied in the CRA Gun Club's April 11 Troy trapshoot, aiming at a share of the day's purses only, since the big pot was wiped out last month by Bill Shrode of Fallbrook.

Bill Smith of El Cajon earned $9.75 for high score of the day with a 47. Herb Langfeldt of National City won $9.75 for going 25 straight in the 16-yd. event.

Since no one went straight in handicap or combined, $19.50 remains in the pot to start the build-up for future Troy competition.

'Greatest Story' Tickets at Bargain

A rare treat is in store for GD movie goers with discount tickets obtained by CRA for a showing of "The Greatest Story Ever Told" at the new Center Theatre in Mission Valley.

GD "night" will be May 25 at 8 p.m. Tickets usually selling for $3 will go to GD purchasers for $2.40.

Tickets may be bought before the May 21 deadline at CRA Clubhouse, Kearny Mesa; Convair employe services outlets at Kearny Mesa, Lindbergh Field plants, AF Plant 19, Rose Canyon; GD/E employe services, Plant 1; Stromberg-Carlson employe services, Plants 1 and 2.

SPORTS DRIVERS TO SEE FILMS

CRA Sports Car Club members will meet May 5 in the Convair executive dining room, Pacific Hwy., to view two films. Meeting date will be changed to the second Wednesday of each month, beginning with the June meeting.

Margaret Brock Tops List of Wives Club With 644 Hours Devoted to Activities

Margaret Brock has received top honors as first "Woman of the Year" of the Convair Wives' Club by merit of the hundreds of hours she has devoted to club activities during the last year.

She totaled 644 hours during the 1964-65 club term while she held the office of first vice president.

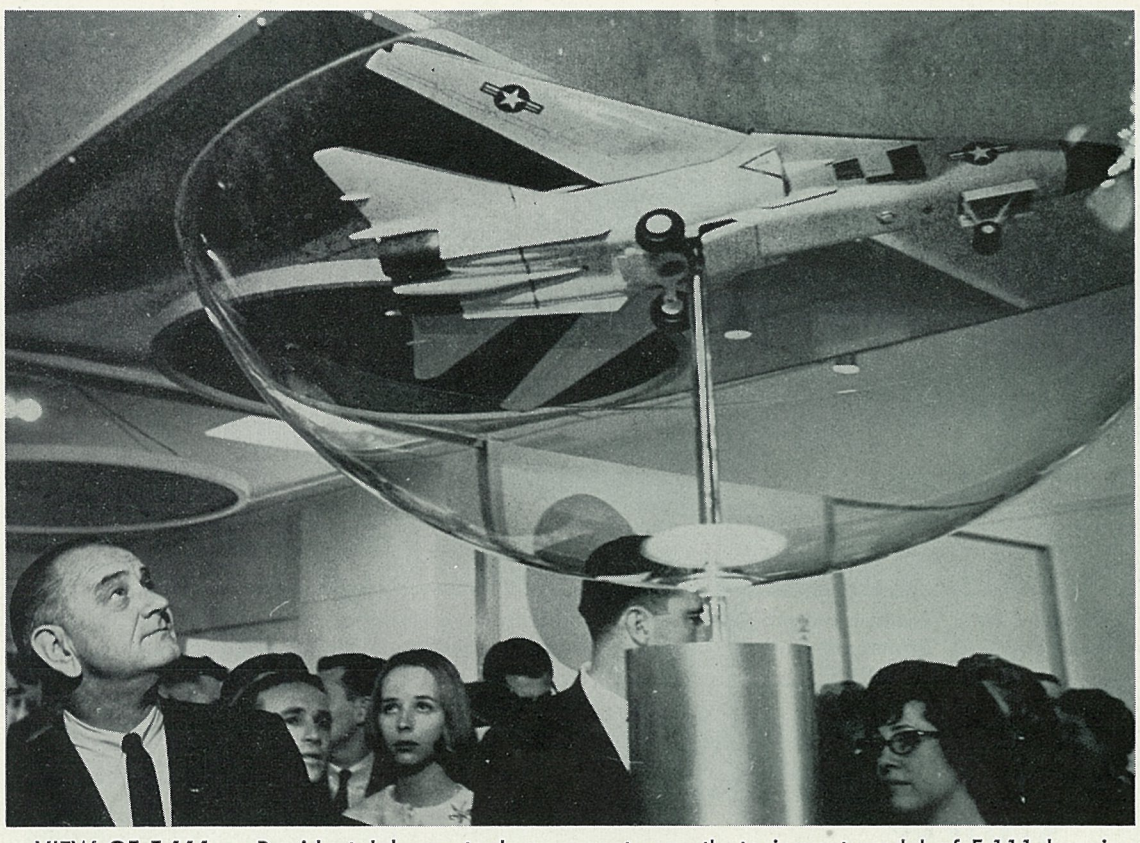
Georgia M. Hatfield had the grand total of 1,050 hours, but was not eligible for the top award since she served as president during the period.

Other Wives' Club members who received trophies for spending more than 100 hours on club work were Helen Ohland, special events chairman, 499; Anita Klepach, 188; Jeanne Jones, 140; and Fran Thompson, 134.

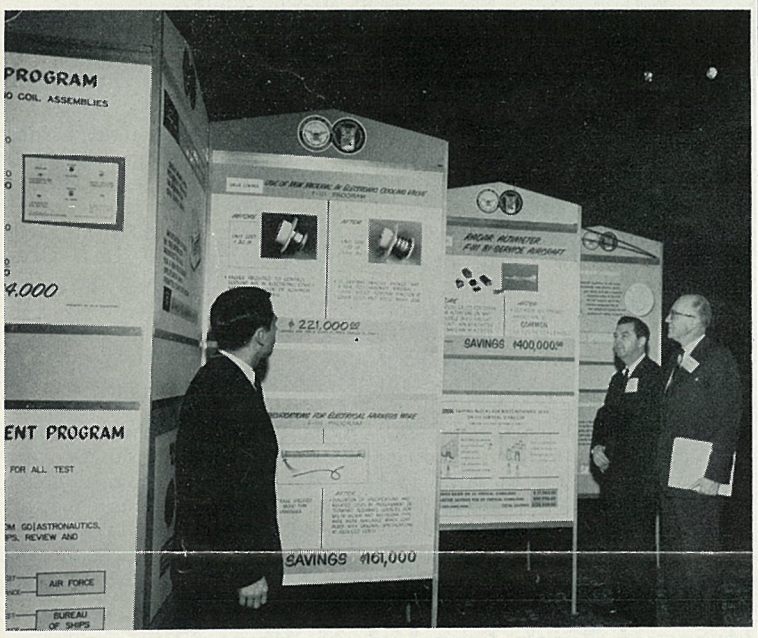
Awards will be made annually for time spent (100 hours and over) in any capacity on club activities — hostess duty, directing craft sessions, contests, and special events.



ACTIVE WIVES — In top photo are Wives' Club members receiving first annual awards for more than 100 hours devoted to club work during year. From left: Margaret Brock, "Woman of Year," Georgia M. Hatfield, Helen Ohland, Anita Klepach, Jeanne Jones. Fran Thompson not shown. In lower photo are new officers for coming year. From left Jean Beatty, president; Helen Ohland, first vice president; Lou Nordeck, second vice president; Flora Loftin, secretary; Sue Cavanagh, treasurer.



VIEW OF F-111 — President Johnson took a moment recently to inspect model of F-111 hanging in Smithsonian Institution. He was present to speak at opening of science exhibit at new Museum of History and Technology.



DISPLAY—GD/Fort Worth exhibits at Dallas meeting of Advanced Planning Briefings for Industry are viewed by, from left: John Lane, GD Corporate Office; James N. Sowers, GD director of cost analysis; and M. L. Hicks, GD/FW counsel.

Cost-Saving Projects In F-111 Program Shown

Cost-savings ideas valued at over $2½ million—mostly on the F-111 fighter—were depicted in six exhibits at Advanced Planning Briefings for Industry in Dallas recently.

The two-day show, sponsored by Department of Defense and the National Security Industrial Association, was held at Marriott Motor Hotel.

Previous exhibits have been held at Los Angeles and New York City. Another is slated for Washington D.C. April 28 and 29. Ideas best representing the total effort will be selected from regional shows for display in the Pentagon during National Contractor Cost Reduction Week.

Purpose of the Advanced Planning Briefings for Industry is to recognize industry contributions to lowered defense costs. Additionally, the briefings are to "promote a cross-fertilization of cost reduction ideas, promote cost-consciousness, and stimulate additional contributions by personnel in industry and government."

GD/Fort Worth cost-reduction ideas displayed included:

Using a radar altimeter common to both Air Force and Navy F-111s, instead of two separate altimeters called out in original specifications. Savings totaled $400,000.

Installing numerical-controlled drafting machine to reduce average cost of drawing from $882 to $380. Anticipated savings for 1965 were $1,617,627.

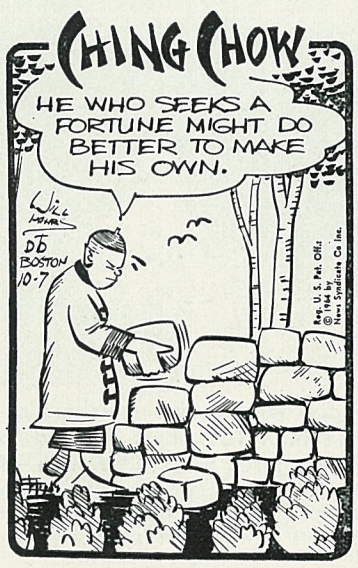
Installing new, up-to-date equipment to handle the division's electronic data processing task. This reduced machines needed from 57 to 22; operators from 58 to 38. Annual savings were $188,952.

Using less expensive electrical harness wiring than called for initially, saving $161,000.

Reducing cost of F-111 cooling valve from $30.74 to $10.06 by using new polycarbonate material, lexan, instead of aluminum. Savings totaled $221,000 for a series of parts.

Eliminating gold plating tapping blades for bolt retaining skins on F-111 vertical stabilizer; savings on 26 stabilizers estimated at $17,963, for 69 stabilizers $110,996.

M. L. Hicks, GD/FW counsel, served as Industry Moderator and introduced the second day's program. In addition, he made closing remarks.



GD Share Owners To Meet April 30

General Dynamics Corporation's annual meeting for share owners will be held Friday (April 30) beginning at 10:30 a.m. in the International Room of El Cortez hotel in San Diego.

Roger Lewis, General Dynamics president, will head the group of Corporate officers who will be present to explain company affairs. Between 300 and 400 share owners are expected to attend. This is the first time the annual gathering has been held in San Diego.

Navy Shown GD Products

General Dynamics products from five divisions were prominently displayed last week in Washington, D.C., at the annual convention of the Navy League.

Guests included high ranking government and military leaders.

The GD exhibit area included a small theater and projection booth to illustrate briefings that ran continuously during the convention. Major product areas were covered by models, and in some instances hardware, highlighting efforts at Electric Boat, Convair, Pomona, Fort Worth and Electronics divisions.

Among those taking part in the briefings were P. F. Oestricher and Roger Scott of Fort Worth, describing the Navy version of the F-111, and W. H. Ezell and Dr. Richard Benoit of Electric Boat, speaking on research submarines.

People Mobility

Appointments and Transfers

B. W. KAHLA, who joined the Company at Fort Worth in 1949, transferred to Convair in 1962 and shifted to Corporate Headquarters in 1963, has been appointed director of management engineering for Stromberg-Carlson, Rochester.

O. D. CENTER, formerly controller for McCall Corp. and veteran of electronics industry (18 years with RCA), has been named controller for Stromberg-Carlson Corp. He succeeds **HERSHALL F. JOHNSON** who is returning to Pomona division, where he headed industrial accounting before transfer to GD/Electronics as controller in 1962, shifting to S-C in 1964.

ROY W. JONES, formerly director of manufacturing operations for GD/Electronics at Rochester has been named director of industrial relations, succeeding **ROGER BROWN** who has moved to Corporate Headquarters industrial relations staff. Brown shifted from Convair (then Astronautics division) to GD/E in 1962. Jones joined Stromberg-Carlson in 1942 and transferred to GD/E in 1961.

Other recent transfers:

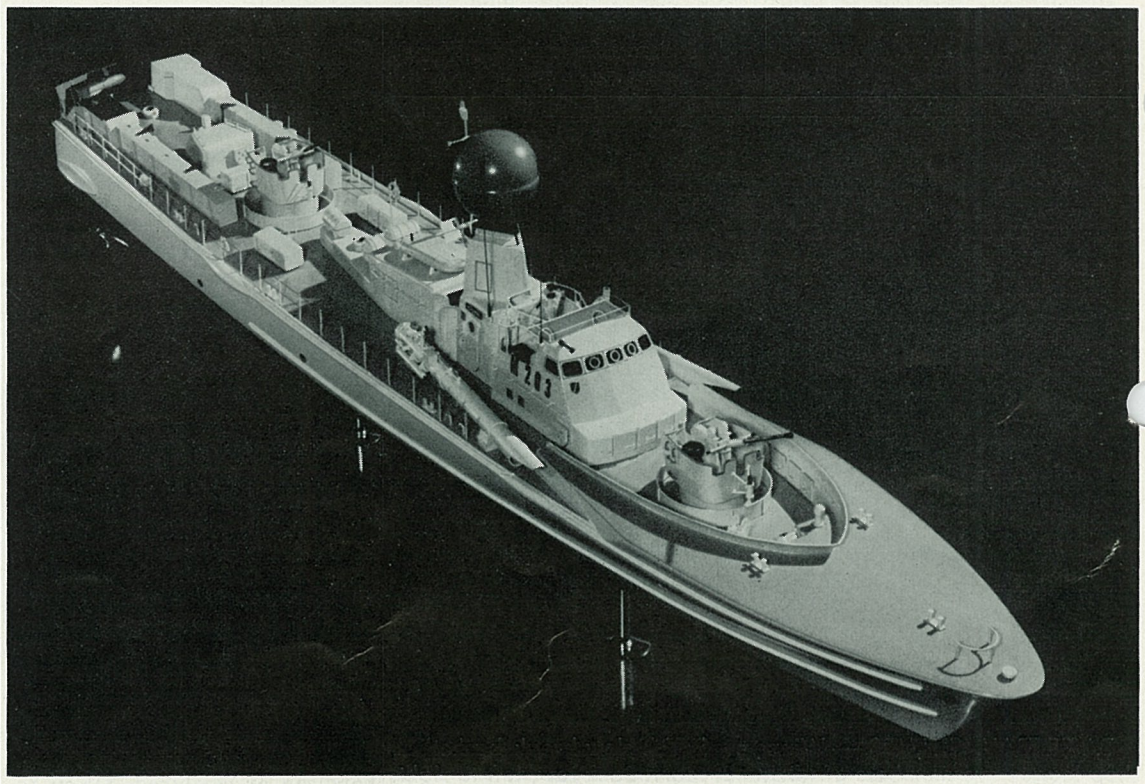
ROBERT E. STEVENS (1961) from Convair to Fort Worth budgets; **THOMAS D. BROOTEN** (1956) from Electronics (San Diego) to Stromberg-Carlson (San Diego); **JOHN W. MULLEN** (1953) from Convair to logistics support, Electronics (San Diego); **HAROLD A. NELSON** (1958) from Convair to Fort Worth estimating; **RICHARD SHAEFFER** (1956) from Convair to Fort Worth (Edwards AFB).

JAMES W. EVANS (1963) from Convair to engineering, Electronics (San Diego); **FRANK H. MEARS** (1961) from Convair to Fort Worth F-111 configuration control; **RAYMOND E. WILSON** (1955) from Convair to engineering, Electronics (San Diego); **ARNOLD H. LAKRITZ** (1961) from Electronics (San Diego) to Centaur reliability control, Convair; **ORVIS L. McDERMED** (1961) from Convair to Fort Worth nuclear research and development; **CLAUDE W. SUMMERS** (1953) from Convair to engineering, Electronics (San Diego); **CHARLES G. McILWRAITH** (1958) from Convair to design specialist, Pomona.

RICHARD M. GEISLER, from Fort Worth to Corporate Headquarters cost analysis.



"Come back here!"



ON DISPLAY — Fast Patrol Boat model was displayed by GD/Pomona at Navy League convention in Washington, D.C., last week as part of Corporate exhibit. Craft (200-ton class) would include Tartar missile (note on stern) for surface-to-surface use in coastal waters.

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 10 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, May 12, 1965

James MacDonald New Vice President of GD

James T. MacDonald, former assistant to the president, has been appointed a vice president of General Dynamics, Roger Lewis, president, announced last week.



NEW VP—James T. MacDonald, newly-appointed General Dynamics vice president for manufacturing services.

MacDonald will be responsible for manufacturing services and for the Corporation's plants, land and equipment, as well as for quality control and reliability programs. He also will be responsible for the Corporation's extensive computer facilities.

Born in Fort Logan, Colo., MacDonald attended Stanton School, Cornwall, N. Y. and Boston English High School, graduating in 1924. He attended Lehigh University, graduating with a BS in business administration in 1931.

MacDonald came to General Dynamics three years ago after 28 years with Douglas Aircraft, Santa Monica. Among executive posts he held were assistant to the vice president-manufacturing, and assistant to the executive vice president. With GD he has been involved in coordination of manufacturing programs, as well as surveillance of facilities.

A low handicap golfer, MacDonald is a member of Los Angeles Country Club and Winged Foot CC, Mamaroneck, N. Y.



ANNUAL MEETING—General Dynamics shareowners met with Corporation officers at San Diego late last month for annual meeting and heard Roger Lewis, president, outline state of business.

C-141 Order Upped For Tail Sections

GD/Convair received a follow-on order late last month in the amount of $3.9 million for 18 additional tail sections for the C-141 from Lockheed-Georgia Co., prime contractor for the Air Force jet cargo plane.

The new order brings to 152 the number of empennages Convair will build at its Lindbergh Field plant, and extends production work to July, 1966. Total dollar value of the C-141 contract now amounts to nearly $47 million.

Convair received its first C-141 contract in the fall of 1961 with first delivery made to Lockheed-Georgia's Marietta plant in March of 1963. Since then 46 of the giant tail sections have been delivered with the 47th, first on the speeded-up production schedule, due out the middle of this month.

First completed C-141 was delivered to the Air Force last October at Tinker AFB, Okla. The giant jets, which can carry a maximum payload of over 70,000 pounds for transcontinental nonstop hauls, are expected to be operational in squadron strength by the middle of the year.

Bad Weather Will Be 'Good' In Buoy Test

GD/Convair's prototype ocean data station buoy went into second stage of testing late last month when it was moored in the strong current of the Gulf Stream off the Florida coast.

It was placed on location, approximately 14 miles off shore east of Hollywood, Fla., on April 28 for continuation of performance checkouts in rough weather conditions. In fact, just as the buoy's anchor was dropped in 1,000-ft. water depth mid-way between north and south shipping lanes, a storm was brewing, later to pass over the buoy.

The current test phase is a follow-on to initial tests at sea

(Continued on Page 2)

Salvage Schedule To June 5 Listed

Salvage yard schedule for the next four Saturday mornings:

Kearny Mesa Plant—May 15.

Lindbergh Field Plant—May 22, June 5.

Neither yard will be open May 29.

Surgery Patient Now Weightlifter!

A 15-year-old Convair son, who underwent open heart surgery less than two years ago, was judged top weight-lifter in his class in recent San Diego competition.

Charles Cropper Jr. (father in Dept. 780-3, Kearny Mesa), won the 132-lb. weight class in the AAU-sponsored "Mr. Teen-Age Contest" April 24.

He credits the eight months he has spent in steady workouts at the CRA Health Club under direction of Frank Echevarria with building up his health and strength.

Saving Reported Of $15 Million In First Quarter

During the first quarter of 1965, employes of Convair's Kearny Mesa plant achieved nearly $15 million in savings through their cost reduction and value control activities.

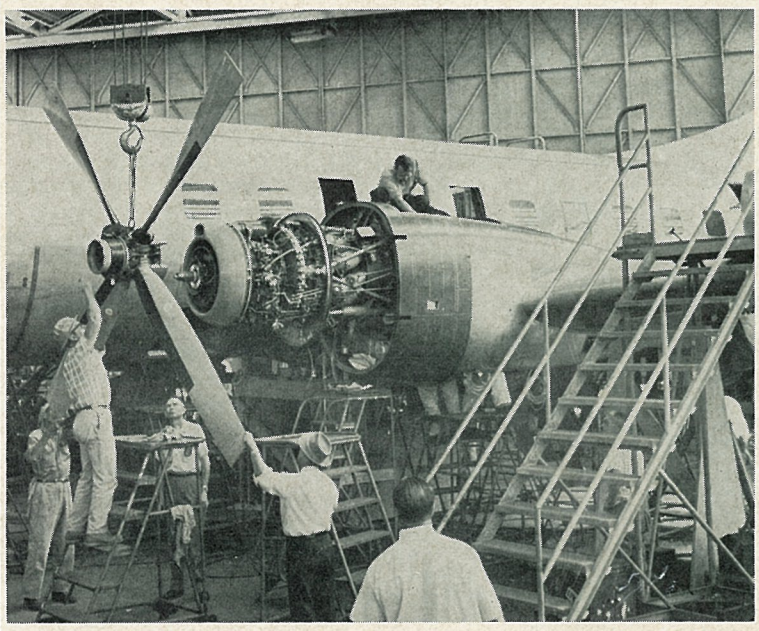
Cost reduction efforts saved $9.6 million and value control saved $5.3 million.

E. D. Heller, manager of cost reduction and value control, said that $94 in savings was achieved for every dollar spent on the administration of the value control program, and that cost reduction achieved a savings of $265 for every dollar spent administering that program.

Of the $9.6 million saved through cost reduction, 83 cost reduction projects accounted for $8.8 million, Employe Suggestions saved $131,200, and the methods improvement program saved $109,200 on the National Aeronautics and Space Administration's (NASA) projects and $549,600 on Air Force projects.

Typical of the Kearny Mesa plant's cost reduction program was its participation in Operation Underbrush, a Corporation-wide effort to clean out the "underbrush" of paperwork. The week of Jan. 4 was "Clean Out the

(Continued on Page 2)



PROP INSTALLATION — Another milestone was reached in Dart-Convair modification as first ship's set of turboprop propellors was installed on prototype 240-D at GD/Convair last month (April 22-23), as aircraft heads toward readiness for field operations. Four more propellors, built by Dowty-Rotol Ltd., Gloucester, England, now are in-house.

Vigorous Sales Effort Stressed

Speaking of the long range future of General Dynamics, President Roger Lewis late last month told shareowners that the Corporation "has a fortunate balance of Government and commercial business."

"Our Government sales go to all of the armed services and to other major agencies," he said. "Our commercial business covers an unusual range from basic minerals to advanced nuclear power plants. These commercial operations provide an excellent base for expansion . . . (which) we intend to pursue vigorously."

Lewis addressed shareowners in El Cortez Hotel in San Diego during the annual meeting April 30, the first held on the West Coast. Also present were all but three members of the Board of Directors, as well as a number of Corporate executives.

The shareowners' meeting climaxed a board of directors inspection that included a gathering at GD/Pomona division for briefings and dedication of the new engineering building there Thursday (April 29) after which the party flew to San Diego to witness a flight demonstration of Convair's COIN aircraft at Lindbergh Field. Later they attended briefings at the Kearny Mesa plant.

Lewis' remarks to shareowners included specific reference to products at various divisions as well as his opinion of the overall prospects. Elaborating on the latter, he continued:

"General Dynamics continues to be predominantly a defense contractor with over 80 per cent of its total sales to the Government. As a dedicated defense contractor, we must have the capability to make maximum and rapid use of new technology and to complete new systems in the minimum possible time from original concept to operational hardware.

"Over the past several years, there has been a major change in the planning and procurement of weapon systems. What has emerged is the 'program package' concept which combines weapon system planning and budgeting over a relatively long period, with much greater coordination of the requirements of the several services.

"The trend is toward fewer new major weapon systems — hence more competition than in the past. On the other hand, once a program is approved it tends to be more stable.

"Current trends do not indicate a major dip in overall defense spending; rather they point to a flattening out around the current procurement rate.

"However, in future procurements, we expect early project definition and cost estimating to be much more complete. We expect a continuing shift from cost-plus-fixed-fee contracts to firm-fixed price or fixed-price-incentive contracts.

"We expect, from the standpoint of the Department of Defense, extreme cost consciousness, plus the requirement for much more stringent product guarantees from the contractor. Quality and reliability will be emphasized as never before, with heavy penalties invoked for failure to meet contract requirements.

"The Government will expect to get outstanding performance, but it will want — and should get — such hardware on the most economic basis possible.

"We believe these objectives are sound. Application of such policies should favor the more experienced, and the more competent companies.

"General Dynamics has sought to be such a company for 66 years, and welcomes the challenge."

Directors Introduced At Shareowner Meeting

Directors and top officers of General Dynamics Corporation were present for the shareowners meeting, held this year in San Diego.

Headed by Roger Lewis, president and chairman of the board, there were ten members of the Board of Directors present.

Corporate representatives included John A. Sargent, vice president-finance (also a director); Roger I. Harris, vice president and chief counsel; John P. Maguire, Corporate secretary; William T. Lake, comptroller; H. K. Pedersen, treasurer. Divisions

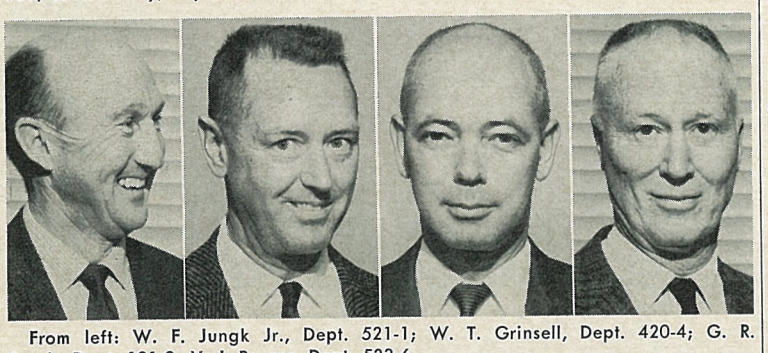
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Log Book Entries

25-Year Men Recognized



From left: Frank Pagliuso, Dept. 015; A. J. Lux, Dept. 6-31; E. W. Ridpath, Dept. 959; T. A. Bessey, Dept. 143-1.



From left: W. F. Jungk Jr., Dept. 521-1; W. T. Grinsell, Dept. 420-4; G. R. Jacob, Dept. 101-0; V. J. Berger, Dept. 523-6.

Awards

CONVAIR

Employe Suggestion Awards approved for the week ending April 23.

Dept. 119 (Lindbergh Field), D. R. Wilson, $36.10.

Dept. 123-0, D. C. Flint, $10; R. E. Kauffman, $57.30.

Dept. 125-0, D. C. Mathias, $10.

Dept. 142-2, L. E. Johnson, two awards, $34.50 and $100 (partial payment).

Dept. 143-3, F. A. Baugh and L. A. Weeks, joint award, $63.10 each.

Dept. 143-4, R. J. Buso and L. N. Wellington, joint award, $5 each.

Dept. 143-6, G. I. Foster, $10; J. I. Homan, $10.

Dept. 151-0, C. R. Tucker, $10.

Dept. 250-1, C. L. Chappell and H. R. Howard, joint award, $5 each; E. Fortune, $10; R. C. Frajman, $10; A. C. Mitchum, $10.

Dept. 250-6, G. S. Brooks, $101.20.

Dept. 382-2, R. L. Barnhard, $10; B. S. Pawelek, $10.20.

Dept. 423-0 (Lindbergh Field), D. M. Scannell, $10.

Dept. 451-0, Jerry Popp, $21.70.

Dept. 522-6, H. M. Harvey, $122.10.

Dept. 567-1, R. W. Swanson, $144.40.

Dept. 642-1, A. D. Jorgensen, $250 (partial payment); C. S. Kempff Jr., $18.

Dept. 644-2, Ann Hood, $10.

Dept. 655-5, G. M. Carlson, $10.

Dept. 681-3, D. F. Waring Jr., $100 (partial payment).

Dept. 733-0, E. S. Abbott, $10; V. R. Bibb, $10; T. W. Farnham, $10; W. J. Mars, $29.50; Jesus Ortiz, $10; S. Serrano, two awards, $10, $10.

Dept. 756-0, T. A. Martinez, $33.20; W. J. McKillip, $10.

Dept. 758-0, M. F. Gabriel, $76.50.

Dept. 759-0, F. A. Horton and L. M. Mifflin, joint award, $5 each; G. D. Lundquist, two awards, $10, $10; L. O. Marine, $102.90.

Dept. 759-4, J. F. Mayer, $10.

Dept. 763-0, L. W. Howerton, $10; A. R. White, $10.

Dept. 780-1, B. C. Anthony, $10; C. E. Day, $10.

Dept. 780-2, L. D. Richey, $21.

Dept. 780-3, S. R. Hill, $22.

Dept. 830-0, R. F. Lunetta, $10.

Dept. 835-6, J. B. Allen, $10.

Dept. 954-3, R. J. Zenger Jr., $10.

Dept. 972-0, C. L. LeMaster, $59.90; C. M. Ray, two awards, $10, $10.

Dept. 973-3, E. W. Pagel, $70.80.

Cost Improvement Proposals approved for the same period.

Dept. 124-0, R. B. Montague.

Dept. 141-2, W. E. Mountain.

Dept. 143-2, W. A. Dibblee, two CIPs.

Dept. 332-1, H. M. Dougherty.

Dept. 665-3, R. C. Zuranski.

Dept. 684-5, M. F. Conover.

Dept. 957-0, J. W. Taylor.

Dept. 963-2, J. M. Stabile.

Personals

CONVAIR

My deepest appreciation to Convair friends for the many expressions of sympathy, the gifts, and the beautiful flowers sent when I lost my husband, Lee Bennett.

Mrs. Lee Bennett.

* * *

We wish to express our sincere appreciation to all the wonderful friends at General Dynamics for their expressions of sympathy and acts of kindness during the illness and death of our beloved husband and father, John R. Mackley (Dept. 170-1).

Mrs. John R. Mackley
Sara and Mary Jane

* * *

I wish to express my sincere appreciation for the lovely flowers received from Convair at the death of my husband, William G. Rowe, retired from former Dept. 218.

Mrs. Marion Rowe

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.



Sam Southerland, Dept. 964, right, and S. E. Smith, Dept. 400-3.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, June 7, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field plant, ext. 491: one hour, first shift, Tuesday, May 25, 8-9 a.m., Bldg. 14 auditorium; second shift, Tuesday, May 18, 4:30-5:30 p.m., Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1913, Kearny Mesa. Limited enrollment. Forty hours; daily, morning classes, 8 a.m.-noon, May 10-21, CRA Clubhouse auditorium, Kearny Mesa.

SEPARATE PARTS LIST/ECNs—Hal Rubin, ext. 1931, Kearny Mesa. Limited enrollment. Four hours, Tuesdays and Wednesdays, 7-9 a.m. Class I, May 11-12; Class II, May 18-19. Operations Conference Room, Col. K-8, Kearny Mesa.

PLASTIC SAFETY—Hal Rubin. Limited enrollment. Lindbergh Field, Bldg. 14. Call ext. 491, Lindbergh Field plant, for time and dates.

SOLDERLESS CONNECTIONS & HARNESS FABRICATION & INSPECTION—Jim Hanratty, ext. 1931, Kearny Mesa. Limited enrollment. Ten hours, daily, mornings, 9-11 a.m., weeks of May 10, 17, Room 10, Bldg. 17, Kearny Mesa.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 4, Bldg. 17, Kearny Mesa.

PRATT & WHITNEY RL10A3-3 ENGINE—A 20-hr. class is planned for the near future. Call Laura, ext. 1931, Kearny Mesa, for information and preferences of dates and times. Class will be taught by Pratt & Whitney personnel.

AFTER HOURS TRAINING IN-PLANT

BOOLEAN APPLICATIONS TO ENGINEERING—Jim Hanratty, ext. 1931, Kearny Mesa. Twenty hours, Tuesdays, June 15-Aug. 10; 5-7 p.m., Room 2, Bldg. 17, Kearny Mesa..

SECRETARIAL ACCOUNTING (City College) — Jack Hanning. One semester Each class session 3 hours, Wednesdays, 5:30-8:30 p.m., Kearny Mesa, May 12-Sept. 15. For information and reservations call Laura, ext. 1931, Kearny Mesa.

FORTRAN FOR ENGINEERS — IBM staff, ext. 1494, Lindbergh Field plant. Limited enrollment. 32 hours. Tuesdays & Thursdays, 5-7 p.m., April 7-May 27. Room 6, Bldg. 17, Kearny Mesa.

NON-DESTRUCTIVE TESTING — D. C. Ryle, ext. 1767, Kearny Mesa. Co-sponsored by Society for Non-Destructive Testing. Tuition, $35. Total, 72 hours. Part I: classroom, 48 hours, Thursdays, 6:30-9:30 p.m., Lindbergh Field, Bldg. 14 auditorium, March 4-June 17. Part II: workshop, 24 hours, Tuesdays & Wednesdays, 6:30-9:30 p.m., Lindbergh Field shop area, May 11-June 3.

Retirements

CONVAIR

BEYER—William, Dept. 452. Seniority date Nov. 21, 1957, retired Dec. 12, 1964.

BOLTON—Harry, Dept. 141. Seniority date Jan. 29, 1936, retired March 23.

BUSS—Robert A., Dept. 171. Seniority date Sept. 15, 1941, retired Feb. 5.

LAMBERSON—Robert R., Dept. 131. Seniority date Feb. 5, 1947, retired Jan. 26.

LeMAIRE—Lawrence V., Dept. 525-1. Seniority date Nov. 13, 1951, retired March 6.

MACDONALD—Howard R., Dept. 531-2. Seniority date May 7, 1956, retired April 5.

MARCH—Lester C., Dept. 811-0. Seniority date Jan. 3, 1951, retired March 19.

OWEN—Willie M., Dept. 123. Seniority date Aug. 27, 1948, retired April 3.

PEACOCK — Thomas C., Dept. 171. Seniority date Aug. 22, 1950, retired March 10.

TRUCKS—Rodney L., Dept. 48. Seniority date Feb. 12, 1952, retired April 16.

Bad Weather Will Be 'Good'

(Continued from Page 1)

closer to shore — about a mile-and-a-half off Hollywood Beach — last fall. Since then, it has had all systems, instrumentation and power generator, updated at Marine Acoustical Services in Miami.

The portotype buoy, "Bravo," developed by Convair for the Office of Naval Research for collection of a wide range of oceanographic data, will undergo strong sea conditions for the next two months with the Gulf Stream current running as high as five knots.

Robert Devereux, Convair's oceanographic buoy project manager, said that the stronger the current, the better, for procurement of data on the buoy's drag and mooring loads.

Devereux and Stan Uyeda, deputy project manager, headed Convair personnel in Florida to put the buoy on site. F. D. Jennings, head oceanographer of ONR Geophysics Branch, Washington, D. C., inspected the buoy on location early last week.

Remaining to man the mobile ground station throughout the testing period are Louis Scott, in charge of the three-man crew; James Lack, both instrumentation engineers; and Dennis Hyland, technician.

The antenna has been placed on a 20-story Hollywood building, tallest in the area, to pick up telemetry data from the buoy. Tapes will be mailed to Convair for processing.

Speed Reader Class Will Begin May 11

The education committee of the Management Club is sponsoring a speed reading class to be taught in Bldg. 17, Room 1 at the Kearny Mesa plant.

The 17½-hour course will be taught in 2½-hour sessions beginning at 5 p.m. every Tuesday from May 11 through June 15.

The instructor will be Dr. Alice P. Sterner of California Western University.

Fee is $3 for club members and $5 for non-members. Late registrations are being accepted. Call R. M. Williams, ext. 1122 at the Kearny Mesa plant.

Service Emblems

CONVAIR

Service emblems due May 1 through May 15

Twenty-five-year: Dept. 024-0, R. W. Avila; Dept. 031-0, W. E. Porter; Dept. 041-0, V. T. Winsor; Dept. 147-3, A. N. Ennis; Dept. 149-1, L. J. Francis; Dept. 250-1, J. W. Vint; Dept. 400-1, L. G. Bovee; Dept. 509-1, E. M. Moore; Dept. 575-3, A. W. Kellogg; Dept. 821, R. C. Fildes, F. L. Olson; Dept. 831-1, L. V. Wisniew; Dept. 972-0, L. F. Cescolini; Dept. 978-3, W. J. Butts.

Twenty-year: Dept. 041-0, O. G. Offill; Dept. 057-0, J. P. Nowak; Dept. 578-2, G. D. Lindeneau; Dept. 759-0, R. R. Lee, O. J. Sonsteng; Dept. 821-2, Lora M. Young; Dept. 837-1, G. B. Grenolds.

Fifteen-year: Dept. 041-0, Pearl W. Garrison; Dept. 250, J. A. Minahan, B. A. Rusk; Dept. 251, D. R. Sperandio, G. B. Watwood; Dept. 552-3, R. J. Franc; Dept. 553-2, F. W. Arford; Dept. 576-4, V. C. Cardiel Jr., R. C. Cook; Dept. 644-2, V. T. Broach; Dept. 756-0, D. R. Davis; Dept. 780, J. J. Bodrian, William Hungerford, Bernadette E. McKeown, C. G. Woodward; Dept. 963-2, B. H. Gee; Dept. 978-3, R. L. Brockway; Dept. 989-3, C. L. Cozzens.

Ten-year: Dept. 024-0, Willard Nickson; Dept. 120-0, D. R. Roberts; Dept. 191-0, J. M. Benedict; Dept. 400-0, Elizabeth R. Ford; Dept. 522-6, E. D. Erickson; Dept. 530-0, C. M. Richards Jr.; Dept. 543-1, J. M. Simmons Jr. Dept. 552-3, W. S. Ludlow IV; Dept. 572-3, W. S. Lawson; Dept. 576-1, L. N. Haines; Dept. 596-0, M. G. Fox, R. H. Neynaber; Dept. 759-0, John Solowey; Dept. 963, R. W. Eckert, H. C. Meservy. John Roehl; Dept. 964-1, E. H. Curriden; Dept. 988-1, J. E. Sanner.

Invention Disclosures

CONVAIR

BOND—W. H., Dept. 065-3. Tuned Pendulous-Vane Mechanism.

DULL—W. B., Dept. 545-2. 360 Degree R. F. Shielding.

HETRICK—W. F., Dept. 124-0. Electrofax Imprinter.

ROSCISZEWSKI—J. J., Dept. 596-0. Nuclear Rocket with Self-Supported Motion of Fissionable Gas.

STEPHENS—P. B., S. H. MYHRE, S. V. STARR, L. E. SIDEN, J. E. NIESLEY, F. A. FUJIMOTO, all Dept. 583-0. Tankage System for Multiple Firings.

Births

CONVAIR

DOLAN—Son, James Patrick, 6 lbs., 6 oz., born April 3 to Mr. and Mrs. James J. Dolan, Dept. 835.

Deaths

CONVAIR

TRIBBET—Anne C., Dept. 104-1. Died April 11. Survived by husband, Delmar H., and sister.



GOING UP — Soaring staircase at Convair's Kearny Mesa plant seems to typify ambition of Convair secretaries who are enrolled in secretarial development class. Shown here are 27 of 30 girls enrolled in class. Lone man is Dennis Sucheki of educational services.

Secretaries Go 'Back to School' On Own Time to Improve Skills

Thirty GD/Convair secretaries recently graduated from the first phase of the professional secretarial development class conducted at the Kearny Mesa plant.

They are: Alice Baronian, Betty Buckner, Roberta Chappell, Jackie Cooper, Lois Cumberledge, Hyacinth Edwards, Joyce Eveland, Peggy Faulkner, Arlene Garvin, Chloe Gilliland, Bernadine Hausman, Leona Houchin, Ione James, Anne Kelly, Jean Krentz, Alexina Markham, Dorothy Oldfield, Charlotte Paul, Edna Platt, Lorraine Rubida, Katherine Shafranske, Donna Shuffler, Marilyn Smith, Helen Spann, Marjorie Trickett, Ellen Turnley, Marguerite Vorst, Doris Wales, Shirley West, and Buena Young.

On their own time, the secretaries attended a two-and-one-half hour class each week and turned in homework assignments.

The first phase of this program was a 75-hour review of secretarial skills, office procedures, human relations, and business administration. The second phase is a training phase including secretarial accounting and business law taught at the Kearny Mesa plant with San Diego City College credit.

Reservations are now being taken for the second phase of the program which starts today, May 12.

Call Laura, ext. 1931 at the Kearny Mesa plant, for information and details.

Saving Reported Of $15 Million

(Continued from Page 1)

Files Week." That week 186,000 pounds more of unneeded paperwork were destroyed than during an average week.

Highlight of the three-month period was a conference and workshop for 38 of Convair's suppliers.

Called "Operation Bucksworth," the program included talks by Convair President James R. Dempsey; G. E. Fouch, Deputy Assistant Secretary of Defense; Maj. Gen. B. I. Funk, commander of the Air Force Space Systems Division; and B. T. Lundin, NASA's Associate Director for Development.

Heller said that because of the recombination of Astronautics and Convair, a revised cost reduction and value control program plan for all of Convair's cost savings categories will be issued this month. The revised plan will integrate the programs.

State Exhausts Hospital Funds

General Dynamics employes in California who have been hospitalized since April 1 are feeling the financial pinch caused by suspension of $12 a day hospital benefits from the State Disability Insurance Fund.

The suspension was ordered by Governor Brown because the fund is insolvent. Legislation is currently being considered in Sacramento to rectify the situation and press services report there is strong indication that the State ultimately will pay the claims retroactively.

Meanwhile, hospitalized GD employes are receiving group insurance help ($8 a day for hourly, $13 for salaried) but are having to pay the hospital room charges above this sum themselves. The State fund is supposed to pay $12 daily for 20 days.

Employe services is keeping track of the amounts due individuals from the State, to afford verification when funds are available. The State Disability Insurance Fund is financed by a payroll tax on 6.5 million workers in California. Disability pay has been unaffected by the suspension of hospital benefits.

Employes are again reminded that it is their own responsibility to file disability claims directly with the California State Disability Office. Forms are available at employe services, however.

Over Eight Million Dollars Saved in Centaur Program

GD/Convair saved $8,340,000 on the Centaur space vehicle development program during 1964 through an intensive cost savings program.

Grant L. Hansen, vice president and Centaur program director, said the cost savings program has resulted in a reduction of both Centaur's development costs and of Convair's operating costs.

Purpose of the program, in effect throughout Convair and supported by Employe Suggestions and other cost reduction techniques, is "to provide the government better value at lower costs," Hansen said.

Examples of the cost-cutting recommendations are:

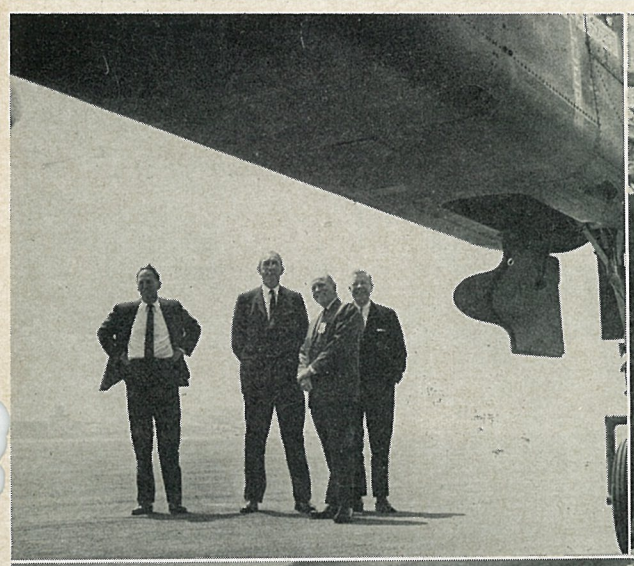
$6,496—by using demagnetized tape instead of new tape for certain test recorders.

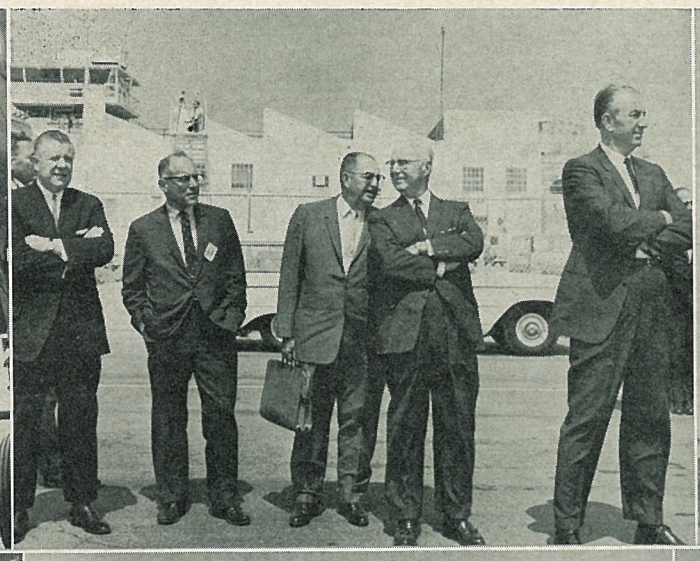
$235,819—gained by procedural changes involving engineering release drawings.

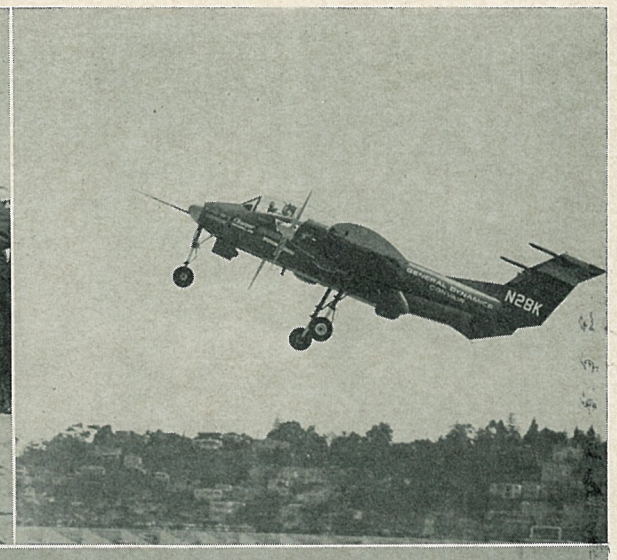
$35,358—by packaging parts in kits to eliminate waste and simplify stock handling.

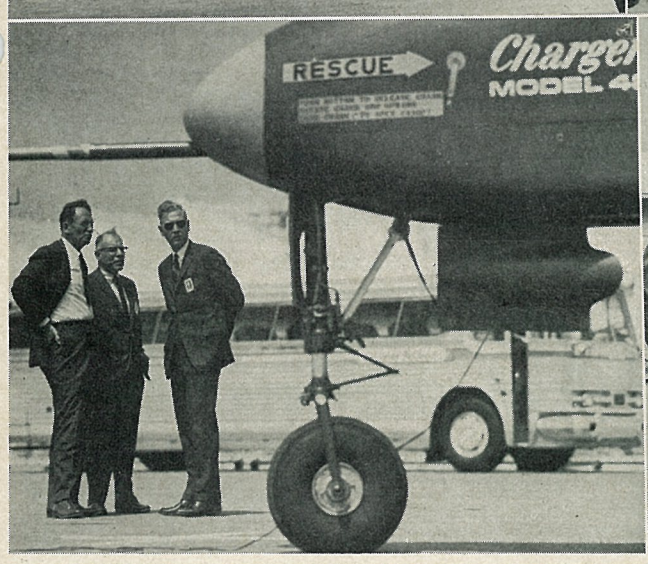
$92,574—by deleting excessive technical documentation.

Hansen said each cost savings recommendation is subject to audit and must be implemented before it is credited to the overall total of Convair savings.

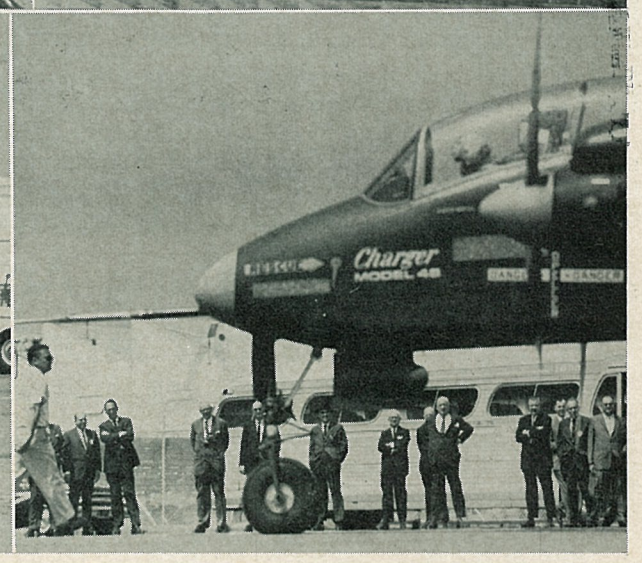












SPECIAL HOP—Convair's COIN aircraft, designed for "brush-war" use, demonstrated short takeoff and short landing for members of Board of Directors at San Diego's Lindbergh Field recently. At top left are Roger Lewis, GD president; David Packard, director; J. H. Famme, Convair vice president; John A. Sargent, GD vice president. At left below are Lewis, Mort Rosenbaum, Convair programs management, aircraft, and James R. Dempsey, Convair president. Top center: Sargent, Rosenbaum, I. M. Laddon, director, B. Emmet Finucane, Packard. Lower center: William C. Bolenius, director; Dempsey; Sylvan C. Coleman, director; Colonel Henry Crown; director; James MacDonald, GD vice president; H. S. M. Burns, director. Directors also toured Kearny Mesa plant and visited GD/Pomona.

Roger Lewis' Remarks Before Shareowners

(Following is a partial text of Roger Lewis' remarks to shareowners which dealt with activities of specific divisions.)

Last year we held our meeting at Groton, Conn., home of Electric Boat division, out of which General Dynamics grew. Since many of our operations have long had an intimate identification with San Diego and Southern California, we felt it only fitting that this year we should meet here . . .

The future is no more predictable now than in the past. But this company has been, and we expect always will be, an integral part of the San Diego community. We expect that both of us will continue our long-term parallel courses of growth.

In San Diego, we have our Convair division, our General Atomic division, and segments of our Electronics division and our Stromberg-Carlson subsidiary. Our Convair division today is a recombination of what had been our Convair and Astronautics divisions . . . Astronautics, originally part of Convair, separated out in 1957 to develop, build and put in place Atlas, the nation's first intercontinental ballistic missile — and as it turned out, also to develop that missile into the first real work horse of the space age. It did that job magnificently.

This year, we recombined these divisions when it became clear that a consolidation would strengthen our operations and improve our competitive ability.

Our General Atomic division was created from scratch in 1957. That division has done, in a very short time, a remarkable job in designing and building research reactors and large power generating reactors.

Our other major Southern California operation is our center for the development and manufacture of tactical missiles, located in Pomona. Pomona division also has ties to San Diego, having originated here.

Our operations in the San Diego area, and this is hardly a secret, are somewhat below their post-war peak. But all in all, our local operations still represent a major industrial enterprise. Our San Diego employment is approximately 16,500 — about one-seventh of the work force of the city.

Convair accounts for 13,500; Electronics and Stromberg-Carlson another 1,100. General Atomic is somewhat special. Its total employment is only 1,800, but it probably represents the highest concentration of advanced technical and scientific degrees in any single location of any industrial organization.

Pomona adds another 5,800 to Southern California's employment rolls.

All in all, this company has deep roots in this community, and we hope to continue to grow with it.

* * *

Aircraft has traditionally been a large part of the Corporation's operations: we produce planes at our Convair division, at our division in Fort Worth, Texas, and through our Canadian subsidiary, Canadair Limited, in Montreal. Our biggest single current program is the F-111, which we are producing at Fort Worth. A little over two weeks ago, the Department of Defense announced that it had approved the award of a letter contract to General Dynamics covering initial procurement of 431 F-111 aircraft through fiscal 1968. The Government announcement said that when this letter contract is definitized, it will exceed $1.5 billion . . . The same announcement also noted that the research and development program to date has given confidence that the F-111 would provide a superior plane for both the Air Force and the Navy missions.

We are test flying the first three F-111s; the aircraft has flown at supersonic speeds and the wing-sweep operation which makes this aircraft so truly revolutionary has become routine . . . We think this airplane has a great future . . . other governments have indicated interest in its availability.

At Convair, we are working on another plane, which in its own way is almost as unusual as the F-111. We call it the Charger. It is the first high-performance aircraft specifically designed for so-called "brush-fire" war.

We believe there is a real need for an airplane of this type. Up to this point, the Charger has had some 70 hours of flight test, and we expect to offer it very shortly for evaluation.

At Canadair . . . we have a number of interesting developments under way. One is a vertical takeoff and landing aircraft which uses the tilt-wing principle. Another is a reconnaissance drone, which can travel over enemy lines, pick up battle intelligence, and return to its original base . . .

* * *

Although our Atlas has largely run its course as the first intercontinental ballistic missile, it is still in the forefront of the space effort. Modified Atlas Ds have been responsible for many of the major space events of the past several years. Flights during the first quarter included the Ranger launch to take pictures of the surface of the moon, and the Mariner-Mars fly-by. A newer version of Atlas called the SLV-3, or Standard Launch Vehicle, is taking on other chores. One of its recent flights was the launching of the first nuclear reactor to go into space.

In recent weeks, we have received orders for 28 more SLV-3s, bringing the number on order currently to 60, with options for more.

We have recently received additional contracts for our work on fluorine additives, designed to give Atlas even more power. On current contracts alone, we will be producing Atlas launch vehicles through 1967.

Centaur, being produced by Convair at Kearny Mesa here, is the first hydrogen-fueled space vehicle, and is a very active program. Its development is going with reasonable success, and its next couple of flights will begin the sequence of Surveyor launches, designed to softland a research vehicle on the surface of the moon.

In addition to Centaur flights scheduled with Atlas as the booster, the National Aeronautics and Space Administration has announced the intention to use additional Centaurs as an upper stage with the Saturn 1B vehicle, and the Air Force has said it has use for Centaur in combination with the Titan 3C and the Titan 3X.

Little Joe II, the solid-fuel utility booster which we also build at Convair as a test launcher for the Apollo program, has had an extraordinary record: It has been successful in every one of its test shots.

* * *

At Pomona, we have been making Terrier and Tartar surface-to-air missiles for the Navy for some time. Within the last couple of months, we received contracts for $44 million of continued production of Terrier-Tartar during 1965, and production of these tactical guided missiles is scheduled for several years.

We are also working on an advanced version, which will be known as the Standard Missile, for the Navy and have recently received another $13 million for its development . . .

In the first quarter, we also received an additional $23 million in orders for the Redeye shoulder-fired, anti-aircraft missile . . . and a much larger sum is currently included in the proposed budget for both the Army and the Marine Corps . . . Redeye is one of those things which, if it weren't already in the works, would have to be invented. As the foot soldier's answer to air attack, it is expected to be in considerable demand not only by our own ground forces, but also by those of our allies and the NATO countries. According to some estimates, the potential for international business with Redeye is as great again as for that of our own armed forces.

* * *

Our marine operations in Electric Boat division are at a peak. We currently have contracts for 16 nuclear submarines for the Navy, six of them ballistic missile subs, 10 of them attack submarines. Four of the latter we are building at our Quincy, Mass., yard.

Electric Boat has also branched

(Continued on Page 4)

Directors Introduced At Shareowner Meeting

(Continued from Page 1)

were represented by James R. Dempsey, Convair president; C. F. Horne, Pomona division president; Frederic de Hoffmann, General Atomic president.

During his opening remarks, Lewis introduced each director present, including brief biographical material. First mentioned was the "senior" member, I. M. Laddon, who has been associated with the Corporation and its predecessors for 38 years. "He came with the franchise, as it were, in 1954 when Convair and General Dynamics merged," Lewis recalled. An aeronautical engineer, Laddon is chairman of the board of Langley Corp.

"Another of our long-time directors is Donald N. McDonnell, former Vultee director. . . . He has been one of our stalwarts," Lewis said. McDonnell is executive vice president of Blyth & Co., investment bankers.

Others introduced by Lewis were:

B. Emmet Finucane, board member since 1955, chairman of Thos. W. Finucane Corp. and Security Trust Co. of Rochester, N.Y., a director of a number of Rochester companies.

Sylvan C. Coleman, director since 1956, chairman of board and chief executive officer of E. F. Hutton & Co., investment bankers, and director of many other firms.

H. S. M. Burns, director since 1962, retired from Shell Oil in 1960 at which time he was chief executive officer and chairman of executive committee.

Maurice T. Moore, director since 1962, senior member of law firm of Cravath, Swaine & Moore, also director of Chemical Bank New York Trust Co.

William C. Bolenius, director since last year, was with American Telephone & Telegraph Co. for 42 years, retiring in 1963 as vice-chairman.

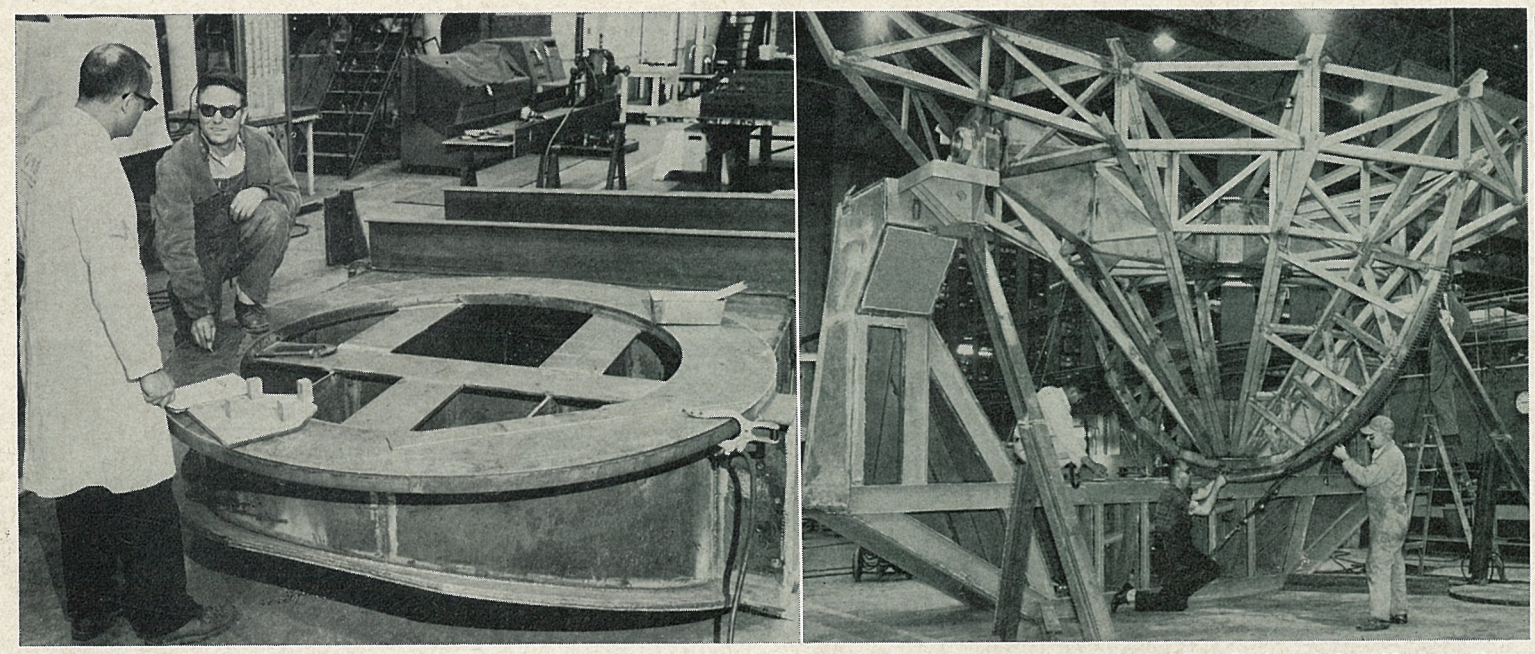
David Packard, president of Hewlett-Packard Co., also director of U.S. Steel, National Airlines, etc.

John A. Sargent, GD vice president-finance, elected to board last year, former executive vice president of General Foods.

Hugo A. Anderson, board member since 1960, retired as general vice president of the First National Bank of Chicago, is director of other large companies.

Colonel Henry Crown, chairman of the board's executive committee, also is director of Hilton Hotels, Rock Island railroad and other companies.

Dr. J. Roscoe Miller, president of Northwestern University, is also director of Sears, Roebuck & Co. and G. D. Searle.



CHECK FIT—AIS telemetry antenna reflector structure is shown at right mated to yoke at Convair Kearny Mesa plant as (from left) Martin Noack, Joe Ater, and Gerry Marcello, all Dept. 756, check fit and alignment of elevation drive gear. (Reflector's outer portions have been removed.) In lefthand photo, Jon Lippett, Dept. 541, and Jim Hudson, Dept. 756, check manufacturing progress. First structure was shipped from Convair to Electric Boat's Quincy, Mass., yard for Apollo Instrumentation Ships program.

Automatic Tracking Antenna Shipped On Schedule For Apollo Ships

The first of three, 30-foot automatic tracking antenna structures for the Apollo Instrumentation Ships (AIS) program left GD/Convair's Kearny Mesa plant on schedule for Quincy, Mass.

These antenna structures are the first of this type developed and produced at the Kearny Mesa plant.

Principal components are the pedestal, the yoke, the reflector, and the feed system. The manufacturing, mechanical assembly, and the check fitting is done at Kearny Mesa. They are then delivered to Electric Boat division in Quincy, Mass., where three ships are being converted for the AIS program.

GD/Electronics in Rochester is the AIS prime contractor.

Convair, as the systems integrator for the telemetry antenna structure, is responsible for the proper functioning of the structures, and for delivery on schedule.

Principal vendors are General Electric for the drive systems, Philadelphia Gear Co. for gear reducers, Kaydon Engineering Corp. for the seven-foot diameter azimuth bearing, Symetrics Engineering Corp. for the feed systems, and Livesay Mfg. Co. for the feed systems supports.

Orison Wade, program manager, explained that the total cost of the AIS program is about $65 million. Of this amount, Convair will receive approximately $1,125,000 for the antennas and an additional $600,000 for studies connected with the total AIS program.

Key management men for the antenna structures contract are John Hopman, factory manager, assembly and fabrication, Dept. 700; J. M. Kline, general foreman, engineering test support, Dept. 756; and R. G. Carman, foreman, Dept. 756. Key men for the execution of the task are W. D. Valentine, assistant foreman; and N. L. Cross, manufacturing development engineer, both of Dept. 756. The engineering design team is led by K. H. Lippitt, design specialist, and a group of ten engineers and draftsmen all under the supervision of M. M. Chazotte.

Wade is especially proud of the skill and ingenuity displayed by the engineering and manufacturing team which has produced this new design and delivered the first article in less than eight months.

Valentine remarked that one example of this fine work and cooperation is the fact that in one month's work, ten days were gained in the schedule by judicious use of men and time.

"Our work plan is restudied every week," explains Valentine, "and we monitor it every day."

All antenna structures are scheduled to be delivered by October, 1965; the total contract lasts through 1966.

$20,000 in Con-Trib-Club Funds Disbursed in San Diego Area

Over $20,000 in Con-Trib-Club funds was apportioned among 11 organizations during the month of April by the Kearny Mesa (former GD/Astronautics) Employes' Committee while the Lindbergh Field plant Con-Trib group approved over $7,000 to 8 groups.

For the time being the two Con-Trib-Club Committees will operate as separate entities, said J. K. Field, chairman. Membership and present meeting times of both groups will be unchanged until later this year.

Contributions made by the Kearny Mesa Con-Trib group included $7,500 to United Fund of Brevard County, Fla., upon recommendation of the Florida Employes' Advisory Committee. Payment will be made in two installments.

San Diego Speech and Hearing Clinic was granted $2,700 for purchase of a dual beam oscilloscope for calibration of other instruments at the clinic. Also, $700 was released from a previous Con-Trib grant for the clinic's use.

Synanon Foundation received $1,500 for operating expenses. United Jewish Federation was voted $1,500 for its annual fund-raising campaign. Boy Scouts of America were given $500 for building materials to repair storm damage at the Scouts' campgrounds.

YMCA received $3,500 with $1,500 designated for the South East Branch for operating funds, $1,000 to the Copley Branch, and $1,000 for any other need.

Boy Scouts of America, Poway Council, received $50 for summer camperships; City Rescue Mission, $2,000 for operating expenses; Northern San Diego County Association for Retarded Children, $500 for operating expenses.

Both Con-Trib-Clubs approved $1,160 each for staff expense of the San Diego Urban League, Inc., and both voted $1,000 apiece to the San Diego County Citizen's Scholarship Foundation to boost the fund assisting San Diego students to continue education in local colleges.

Lindbergh Field Con-Trib Committee voted $3,000 for the yearly contribution to the American Cancer Society during the organization's annual drive for funds. (Kearny Mesa Con-Trib approved a $7,500 donation to the society the previous month.)

Other Lindbergh Field Con-Trib donations included $2,000 divided between four organizations for summer camperships: Boy Scouts of America, SD County Council, $500; Girls Scouts Council of San Diego County, Inc., $500; Salvation Army, $500; YMCA, $500.

I. R. Functions Consolidated

Convair industrial relations functions, reporting to Paul Veal, chief of industrial relations for Lindbergh Field facility and AF Plant 19, now are consolidated in Bldg. 16, former employment building.

Functions, representatives, and extension numbers are: employe services, Molly Dowell, ext. 430; employment (transfers and terminations), Lois Tenwolde, ext. 2132; security, Stan Sharp, ext. 458; safety, M. C. Val Dez, ext. 464; educational services, L. W. Turner, ext. 491; labor relations, M. V. Clark, ext. 673; wage and salary, J. J. Jackson, ext. 1161.

Veal's phone extensions are 1161/1162.

The plant cashier, Floy Anderson, ext. 622, remains in the same Bldg. 16 location. Plant physician, Dr. G. M. Clarke, is still located in Bldg. 14.

Last to be relocated in Bldg. 16 was the safety crib under Ernie Cox, operator. Open hours will continue to be Mondays, Wednesdays, and Fridays, from 8:15 to 11:30 a.m. Val Dez may be contacted during swing shift hours or emergencies.

BETTY SMITH STARS IN MELODRAMA

Betty Smith, Convair Dept. 641-0, and well-known for her dramatic work with Astro Players, was seen in an old-time melodrama April 10 staged by Ye Olde Repertoire Players.

$250 First Payment Earned by Cost Idea

A. D. Jorgensen, Convair engineering planner (Dept. 642-1), received first payment on largest Employe Suggestion award approved last month at Convair which could save the division as much as 1,200 manhours during the next year.

Jorgensen's ES, submitted as an "Operation Underbrush" proposal, eliminates daily delinquent status reports in tool planning for Atlas space launch vehicles. By issuing weekly reports only, a vast amount of paperwork, time, and labor is eliminated.

Heretofore, planners submitted input to the report on a daily supplement worksheet. Material was then transferred to a master ditto, reproduced, and distributed to some 40 people for their evaluation each day.

First installment amounted to $250 with final payment due in six months upon review of the suggestion.

Eurospace Delegates Briefed on Convair

Fifteen representatives of Eurospace, an organization of European companies interested in the space effort, visited GD/Convair's Kearny Mesa plant May 7.

General Dynamics is an associate member of Eurospace.

J. D. Phelan, chief for electronics requirements planning, was host to the visitors who were briefed on Convair's products, facilities, and capabilities.

Medical Reps Tour Convair Laboratories

Thirty-five medical representatives from California research and educational institutions recently toured GD/Convair's life sciences laboratories.

Purpose was to review the medical research programs and facilities of Convair and their application to research programs.

Dr. R. C. Armstrong, Convair's chief of life sciences, was host.

Three-Day Weekend Ahead For Plants

General Dynamics people in San Diego will enjoy a three-day weekend the end of this month when the legal holiday for Memorial Day will be observed on Monday, May 31.

Lewis' Remarks To Shareowners

(Continued from page 3)

out into two other areas — small research submarines and surface vessels . . . Earlier this month the division received the first major contract to be let under the Navy's deep-submergence project, a contract to study ways of salvaging sunken ships . . .

In addition, with our large facilities at Quincy, we are building surface ships. As its part of a multi-divisional contract with the Corporation, Electric Boat is converting three T-2 tankers into larger instrumentation ships for NASA in connection with the Apollo program. We have recently received contracts to build two ammunition ships for a total of $46 million and were low bidder for a new class of submarine tender in the over $30 million range.

Current employment at Electric Boat is 23,000; 17,500 at Groton, and 5,500 at Quincy. At Quincy, we recently signed a new four-year labor contract. This is the first four-year contract in the shipbuilding industry, promising a relatively long period of labor stability while we build our growing capability for surface ships.

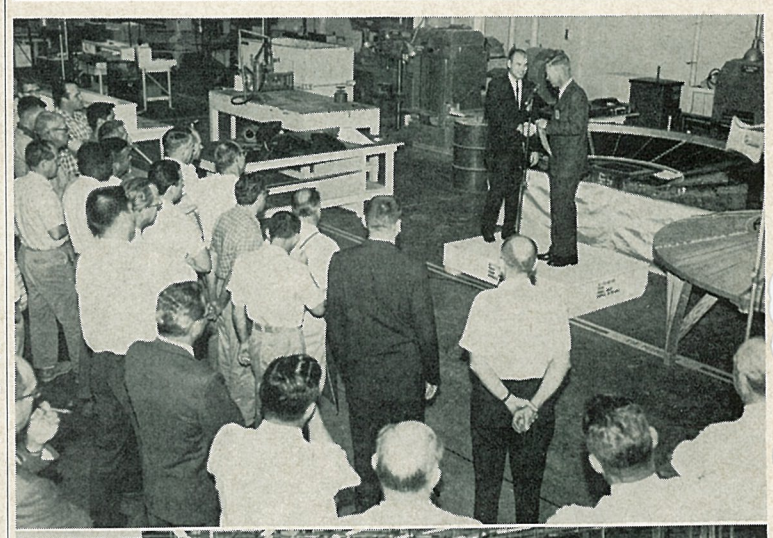
* * *

At General Atomic, the major event of the quarter was the contract with the Public Service Co. of Colorado for a 330-megawatt nuclear power plant based on our high-temperature, gas-cooled reactor. Our first HTGR prototype will go into operation this year at Peach Bottom, Penn. The new one for Colorado will be 8 times as large as the 40-megawatt prototype and is expected to deliver power in late 1971.

The HTGR reactor will operate at a higher efficiency — 39% — than any existing nuclear plant . . . Total cost of this plant is estimated at approximately $81 million . . .

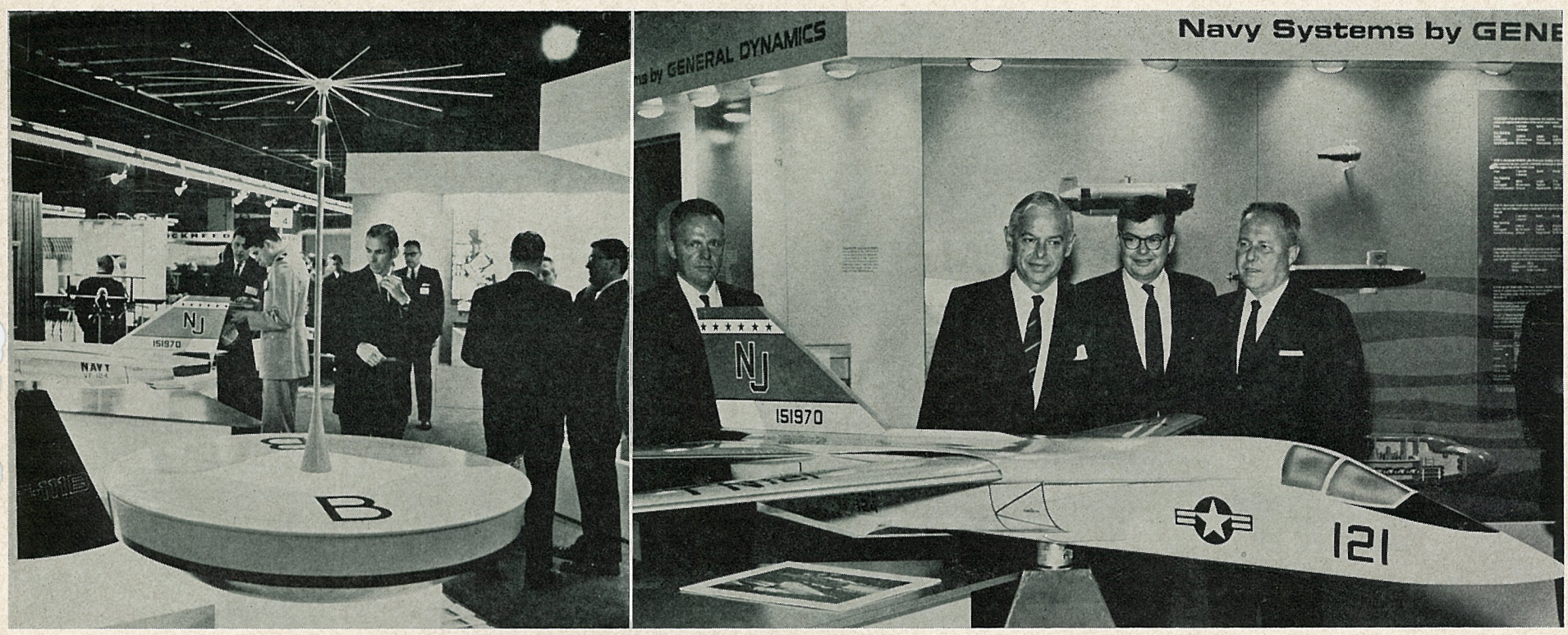
VALUE ENGINEERING TALK PRESENTED

Cost target program developed at GD/Convair was used as the basis for a paper presented at the national meeting of Society of American Value Engineers (SAVE) April 21-23 in Boston, Mass. S. D. Lepen of Convair value engineering group (Dept. 561-0) spoke.





CRAFTSMEN—In upper photo, James R. Dempsey, GD/Convair president, congratulates W. R. Walker, representing Dept. 454 at Kearny Mesa plant on rejection rate of only four out of more than 1,000 parts inspected during March. Quality index of 116.2 made plaster, plastics, foundry department winner of Craftsmanship award for second time. In photo below, Gerry Cox accepts Craftsmen of Month award from Dempsey on behalf of Dept. 002 at Lindbergh Field plant. Winning quality index was 105.4.



TOP ATTRACTION — General Dynamics' exhibit at Navy League convention in Washington, D.C. last month drew many interested guests. In photo at right, inspecting model of Navy version of F-111, are, from left: William Shryock, assistant to F-111 program director, Fort Worth; Paul Nitze, Secretary of the Navy; Dr. Robert W. Morse, Assistant Secretary of the Navy for research and development; J. T. Cosby, F-111 program director, Fort Worth. Convair buoy model is at left.

Nine Sons and a Daughter Earn Dynamics Merit Scholarships

Award of General Dynamics Corporation Merit Scholarships to nine sons and one daughter of GD employes was announced recently.

Three are from Convair division, two Fort Worth, two Electric Boat, and one each from Electro Dynamic, Stromberg-Carlson (Rochester) and General Atomic.

The Convair winners are William O. Floyd Jr., whose father is in Dept. 194-0, budgets; Thomas A. Meeker, whose father is Jack F. Meeker of Dept. 818-2, parts release; and Susan Karel, whose father is Glenn Karel of Dept. 581-2, predesign.

The Fort Worth winners are Michael B. Foster, whose father is P. A. Foster, Dept. 29-8; and Thomas C. O'Hara, whose father is Leighton G. O'Hara of Dept. 65-4.

Electric Boat winners are Harold F. Hemond, son of Harold C. Hemond, senior engineering supervisor; and Edward P. Laine, son of Paul E. Laine of carpenters and joiners department.

General Atomic's winner is Nikhil Davé, whose father is Narmad M. Davé, staff member in general engineering.

Electro Dynamic's winner is Michael B. Yachmetz, whose father is mechanical plant superintendent.

Stromberg-Carlson's winner is Robert M. Sigurdsen, son of Jeanette L. Sigurdsen, secretary.

William Floyd is a senior at Coronado High, and will attend Princeton, majoring in physics, leading to a career in industrial management.

Thomas Meeker, senior at Clairemont High, will major in math at the University of California at San Diego, leading toward a career in research chemistry.

Susan Karel, Will C. Crawford High senior, will attend U.C.L.A. and plans a career in law and politics.

Michael Foster, Castleberry High senior, will major in economics at University of Texas and plans to be an economist.

Thomas O'Hara, Nolan High senior, will major in physics at University of Texas and become a research physicist.

Harold Hemond, senior at Robert E. Fitch High, will major in electrical engineering at Worcester Polytechnic.

Edward Laine, Griswold High senior, will major in physics at Rensselaer Polytechnic and plans to be a research physicist.

Nikhil Davé, Madison High senior, will major in applied science at University of California at San Diego but has not decided upon his exact career goal.

Michael Yachmetz, St. Peter's Prep senior, will major in biology (pre-med) at Johns Hopkins University and plans to be a doctor of medicine.

Robert Sigurdsen, Brighton High Senior, will major in business administration at Bucknell University for a sales career.

SD State's Deadline For Fall is July 15

General Dynamics people intending to enter late afternoon and evening courses at San Diego State College this fall must apply for admission before July 15.

Except for students enrolled during the current spring semester, students must be formally admitted and have a registration priority before registration next fall, Sept. 18.

Course bulletins will be available after May 17 from Convair educational services or San Diego State Extended Services Office.

Applications for admission may be made at State's Admission Office, Room 127, Administration Bldg., Monday through Thursday, 8 a.m. to 8:30 p.m., Fridays, 8 a.m. to 4:30 p.m.

ANNUAL NMA GOLF TO BE JUNE 26, 27

Convair Management Club golfers are reminded to keep open the dates June 26 and 27 when the annual Southern California NMA tournament will be held over the Lake San Marcos and El Camino courses.

There is room for a maximum of 550 linksmen and entries are first-come, first served. Deadline is May 31. Terry Kell, ext. 1195 at the Lindbergh Field plant and Helen Cook, ext. 3146 at the Kearny Mesa plant, can supply applications.

Tournament fee is $13 and electric carts are optional. Ample accommodations are available in the area and committees are investigating rates for club members.

U.S. Oceanographer To Address Club

Man's relationship with the world's seas and their products will be discussed at tonight's (May 12) meeting of the Stromberg-Carlson Management Club in the Bronze Room Restaurant, La Mesa.

Topic of Tim P. Barnett, oceanographer with the U. S. Naval Oceanographic Office, Washington, D.C., will be "Man and the Oceans: 2,000 A.D."

Also, slate of officers for the club year beginning July 1 will be presented by the nominating committee.

Tonight's meeting starts with a social hour at 5:30 p.m., followed by 6:30 dinner, and program at 7:30.

SMALL BOAT EXAM PASSED BY FIFTEEN

Fifteen Convair people qualified for membership in the United States Power Squadron by passing the final examination in the small boat handling and piloting course recently.

The course, sponsored by the Helix Power Squadron, taught fundamentals of boat handling, seamanship, piloting, navigation, and other elements of safety.

Continuing interest in the courses has been sufficient to warrant the scheduling of another class for the fall semester.

This class will start Sept. 8 in CRA Clubhouse, Kearny Mesa, 5-7 p.m. The instruction is free and open to Convair employes and families. For further information contact the Clubhouse, ext. 1111, or Lee Schenke (Dept. 544-2), ext. 2889, Kearny Mesa.

Convair graduates were: R. O. Barkdoll, R. E. Barnes, L. D. Brown Jr., E. L. Fearman, F. L. Harvey, E. V. McLoughlin, F. L. Percival, Marjorie E. Percival, J. C. Perry, R. D. Raney (AF), J. J. Stewart, A. P. Traskell, L. E. Turner, G. E. Wilson, and F. T. Zuch.

S-C and GD/E Name Con-Trib Delegates

Employes' Con-Trib-Club Committees were named the first of this month for the newly-established Stromberg-Carlson and GD/Electronics Con-Trib organizations.

S-C committee members are William Lynt and Clay Murdock. J. W. Swank, manager of industrial relations, acts as chairman.

GD/E committee is chaired by George W. Leesch, manager of industrial relations. Members are B. G. Anderson, representing engineering department; R. E. Kenyon, administration; D. C. Newlon, operations and Management Club delegate; R. M. Trent, EAA representative; and J. W. Wheeler, IAM representative.

Both committees will meet once a month to conduct Con-Trib-Club business.

Course Scheduled In Public Speaking

The education committee of Convair's Management Club invites all employes to attend five lectures on the fundamentals of public speaking.

The lectures, to be presented by the Dynamic 457 Chapter of Toastmasters International, will be heard from 5:30 to 6:15 p.m. on May 13, 20, and 27 and June 3, and 10 in Room A of the CRA clubhouse.

Fee is $3 for club members and $5 for non-members.

At the Kearny Mesa plant call Fred Stephens, ext. 2493; Don Bain, ext. 1116; or John Myers, ext. 4513. At the Lindbergh Field plant call Larry Sweeney, ext. 676. At USAF Plant 19 call Ed Lizarrara, ext. 486.

Roll-Out of Navy F-111B Scheduled at Grumman

General Dynamics President Roger Lewis and a host of top dignitaries were scheduled to be on hand yesterday for roll-out of the F-111B.

The Navy version of the variable-wing fighter was to make its first public appearance at the Grumman Aircraft Engineering Corp. plant at Peconic, Long Island, N. Y.

Keynote speakers were to include: Hon. Paul Nitze, Secretary of the Navy; Hon. Eugene Zuckert, Secretary of the Air Force; Gen. Bernard Schriever, Commander U. S. Air Force Systems Command; Vice Adm. Ignatius Galantin, Office of Naval Material; Vice Adm. Paul Ramsey, Deputy Chief of Naval Operations; and Lewis.

Rear Adm. William E. Sweeney, Navy Deputy to the Air Force F-111 systems program director and project manager for the F-111B Phoenix weapons system, also was to participate.

The forward section of the airframe and the wings of the Navy version were made in Fort Worth and sent to Long Island, where Grumman assembled the plane.

A Grumman spokesman estimated that first flight would take place "in a matter of days" after the official roll-out.

Five of the 23 aircraft to be built in the RDT and E program are to be Navy F-111Bs; the remainder will be Air Force versions—the F-111A.

Culbertson Talks About Man-Rating

P. E. Culbertson of GD/Convair addressed the Manned Flight Conference last month at Dayton, O., sponsored by American Institute of Aeronautics and Astronautics. He reviewed the extensive man-rating program that was carried on following decision to employ Atlas (which had been developed as an ICBM) as a Mercury launch vehicle.

Chester Dunn, also Convair, chaired the Man-Rated Boosters/Quality Control session.

Two GD Engineers Appointed by AIAA

Two GD/Fort Worth engineers have been named technical committeemen in the American Institute of Aeronautics and Astronautics.

Robert J. Patton, project manager advanced aircraft systems, was named to the aircraft design group; M. M. Alexander Jr., manager structural sciences, was appointed to the structures committee.

People Mobility

Appointments and Transfers

D. C. WILKENS JR., long-time industrial relations executive for Convair and most recently works manager at Lindbergh Field plant, has been transferred to Electric Boat division as director of industrial relations.

BRYANT E. JUSTICE, former chief of quality assurance at GD/Fort Worth, and manager of the Fort Worth Resident Office at McDonnell Aircraft, St. Louis, has been transferred to Corporate Headquarters, reporting to J. Y. McClure, director reliability, quality control, value control. **JOSEPH J. CAMERON,** formerly of GD/Electronics, Rochester, has been transferred to Corporate Office (Cape Kennedy); and **FREDERICK R. SCHROEDER JR.** (1959) has been transferred from Convair to Corporate Office (Los Angeles).

GEORGE H. SCHWAB, GD/Convair reliability group engineer, has shifted to Montreal as director of quality and reliability for Canadair Limited. He had been with Convair since 1959.

Other recent transfers, with dates they first joined Company, are:

JOSEPH D. COOK (1955) from Convair to Electronics (San Diego) engineering; **GEORGE W. JACOBS** (1963) from Convair to Fort Worth (Edwards AFB); **GORDON PRENTICE** (1960) from Convair to manager planning and control, Electronics (San Diego); **CHARLES J. INGRAM** (1962) from Convair to Electronics (San Diego) engineering.

EUGENE B. SWAIM (1956) from Convair to Fort Worth (Edwards AFB); **PHILIP E. MacINTOSH** (1959) from Stromberg-Carlson at San Diego to administrative accountant, Electronics (San Diego); **THERESA VASQUES** (1955) from Convair to engineering at Electronics (San Diego); **DONALD W. BENTROTT** (1958) from Convair to Electronics (San Diego) engineering; **ALGIRDAS E. VINICKAS** (1958) from Convair to engineering at Electronics (San Diego).



FAREWELL — Walter E. Koch (center), Convair's first 40-yr. man, is presented television as parting gift upon retirement last month. Long-time friends and co-workers at presentation, made in behalf of Convair by E. L. Bryant, vice president of operations, are: R. A. Evans, W. L. Van Horn, J. P. Hopman, A. E. Hill, Sam Galasso, R. H. Gilliland, Koch, Bryant, Jack Kline, Frank Kemper, and Fred Grossher.

Ex-Immigrant

Retiring After Forty Years, Koch Will Teach Handicapped

Walter E. Koch, who had been with the company longer than any other person in western divisions, retired from GD/Convair last month to devote his time to passing on his production knowledge to handicapped workers.

Koch, first to receive his 40-year pin, has offered his services on a full-time basis to Sheltered Workshops of San Diego, Inc.

In his own words he explained, "I must repay in whatever way I can the many years of good life I have had in the United States since I arrived at Ellis Island as a young immigrant from Germany."

His decision to put his skills to use for others, less experienced, prompted him to volunteer to teach assembly production methods at Sheltered Workshops, a non-profit corporation for rehabilitation of handicapped through work experience.

Koch took his training in mechanical engineering in a German trade school before leaving depression-swept Europe to come to the United States and a fresh start in 1923. His first job was operating a loom in a Pennsylvania silk mill where he married his supervisor, Mary.

"Since I couldn't speak a word of English when I arrived in this country, my biggest problem, of course, was making myself understood," he recalled. "Although my wife was of German extraction, too, she never allowed me to speak anything but English. And, it was at her suggestion that we moved to Buffalo, N. Y., where I worked awhile in her brother's woodworking shop before I landed a job with the new Consolidated plant."

He was hired Nov. 16, 1924, by Major Reuben Fleet himself. Koch said that sheer persistence must have got him on the payroll. "I'm sure that Major Fleet became so tired of my constantly applying for a job, that he finally said, 'All right, hire the guy!' "

The young man started on the bench in sub-assembly and machine shop under Dave Wilkinson and proved such a good workman that he was boosted to leadman within a few months. At the company's move to San Diego in 1935 he was made assistant foreman in bench and sub-assemblies, reporting to George Young.

He went on to become general foreman of experimental when that department was formed in 1936 and general foreman of metal bench in 1943. During World War II years he was in charge of special projects. He transferred to the former Astronautics division in 1962 and had been in sub-assembly and mockup operations for the Atlas weapon system, space launch vehicles, and Centaur since then.

He was honored by a group of supervision and long-time coworkers as he ended his long term with the company April 30.

Civic Leaders Club Guests

The May 18 meeting of the Convair Management Club will be held in the Community Concourse.

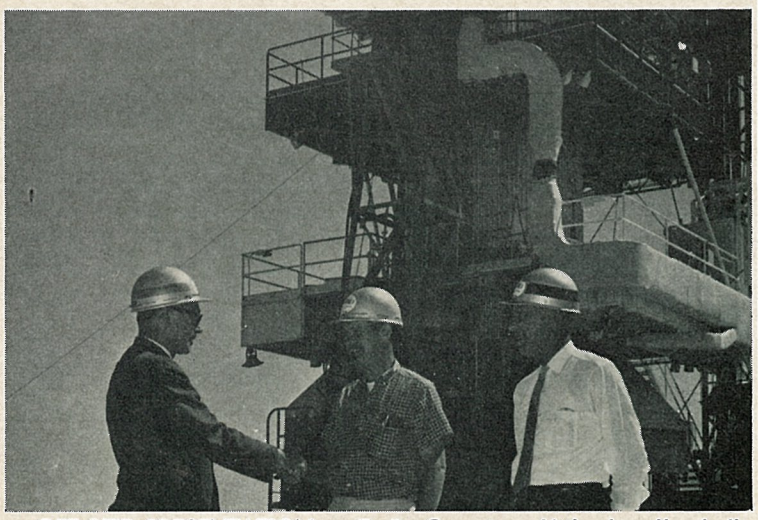
Sponsored by operations, the "ladies night" meeting will present the leading political and civic leaders of the area.

Mayor Frank Curran, City Manager Tom Fletcher, members of the City Council, members of the County Board of Supervisors, and the president and members of the Chamber of Commerce will be among guests.

Newly-chosen Management Club officers will be announced.

Price of $3 per person or $5 per couple buys dinner of Cornish game hen and wild rice stuffing.

Social hour starts at 5:45 p.m., dinner is at 6:45 p.m.



OFF-SITE PRESENTATION — E. R. Compton, Little Joe II missile mechanic, (center) received 25-year service emblem at White Sands Missile Range from H. K. Cheney, Convair deputy program manager for Little Joe II launch operations, April 19. At far right is O. L. Todd, chief of support operations, with Little Joe II on launcher in background. Heavy ducting is part of air conditioning system.

King, Nichols Tie With 80s

Art King and J. P. Nichols tied for low gross in top flight of CRA's golf tourney last month while C. N. Bagaloff held low net. Bagaloff (Dept. 210) shot a net 69 in the April 24-25 match over Cottonwood while King (Dept. 641) and Nichols (Dept. 644) both scored 80s.

Runner-up low gross in the 0-15 flight was Mike Strada (Dept. 524) with an 82.

Three linksmen managed to tangle second low net standings. B. L. Kite (Dept. 761), H. F. Heist (Dept. 692) and W. H. Whitley (Dept. 584) all shot 70s.

First spot in the 16-20 flight's low gross was held by A. N. Meziere (Dept. 976) with an 81. Second low gross was held by R. D. Nissen (Dept. 543), 87.

Low net in the same flight was scored by R. M. Meekin (Dept. 250) with a 69. Second low net score was held by D. G. Spencer (Dept. 196), 70.

In the 21-and-over flight J. Duffy (Dept. 270) shot a 91 for low gross. J. V. Backstrom (Dept. 761) and R. C. Esparza (Dept. 761) both shot 96s for a tie for second.

R. E. Hibbs (Dept. 143) and F. H. Skilton (Dept. 584) shared low net honors, both shooting a 69. J. K. Ball (Dept. 976) was just one stroke behind for second.

Math Contest Attracts 265

More than 265 top mathematics students represented 46 San Diego high schools in the eighth annual Honors Math Contest sponsored by GD/Convair.

Participating students were selected from advanced or honors math classes for the contest May 8 at San Diego State College.

The competition was divided into three categories: city schools, county schools, and independent schools.

Convair sponsors the contest each year to stimulate interest in mathematics and to recognize mathematical ability and achievement.

Winners will be announced at an awards banquet tomorrow night at El Cortez Hotel. Ray T. Blair Jr., assistant to Convair's president, will be master of ceremonies. Dr. John S. Galbraith, chancellor of the University of California in San Diego, will be featured speaker.

Riding Club Plans All-Day Show Sat.

CRA horsemen who have been taking instruction in riding will have a chance to show what they have learned at the Convair Riding Club's all-day show this Saturday (May 15) at the Kearny Mesa horse ring.

The morning will be devoted to equitation classes, putting both mounts and riders through formal paces.

Fun events, including pole bending and Texas barrels, will provide excitement in the afternoon.

Entry fee is 50 cents for each class entered. Children's classes are open to youngsters, 6 through 11 years. All ages over 12 are included in adult division.

Spectators are welcome at no admission charge.

In other recent activities, club members attended a cutting horse demonstration May 1 in Lakeside.

A few vacancies remain at the Mountain View Ranch stables, Kearny Mesa. Information may be obtained by calling Judy Watson, club secretary, 277-0798.

PINYON FLATS TRAILER TARGET

Next outing of the Convair Trailer Club is May 14, 15, and 16 to Pinyon Flats in the Santa Rosa Mts. (near Idyllwild). Wagonmaster is Charles Goodale, assistant is Herb McDowell. Potluck is at 5 p.m. Saturday. Fire permits are required.

Eighteen Convair, FAA 'Students' Complete Second Engine Course

Eighteen Convair people received indoctrination on the Rolls-Royce engine and systems of the Dart-Convair aircraft in a 40-hour course pointed specifically toward pilots, flight engineers, and Federal Aviation Agency personnel who will be flying the plane.

The one-week course, April 19-23, was coordinated by Convair educational services and taught by Don Maxion, Wayne Eddington, and John Nowak of field service.

W. R. Huffman, in charge of pilot training for Central Airlines, Fort Worth, Texas, was in San Diego to attend the training course.

FAA men were: T. F. Curran, power plant engineer; Carl Jacobson and Dean Melton, pilots; L. M. Starbuck, aerospace engineer; Anthony M. Bonanno, systems and equipment engineer, all from the Western Regional Office, Los Angeles, Calif.

Convair "students" from a wide range of functions, including technical writing, inspection, in addition to pilots and flight engineers, were: H. L. Ashton (Dept. 227-0), L. A. Doore (227-0), H. W. Dvorak (531-2), J. L. Fogleman (575-2), Gertrude Hunter (227-0), J. W. Knebel (575-0), K. R. Lemley (544-0), R. T. LeVine (149-0), H. N. Murphy (149-0), L. W. Putney (149-2), R. C. Schaeffer and E. E. Whigham, both Dept. 575-2.

Rush (K6QXN) Heads Reorganized Hams

L. D. Rush (K6QXN) heads the new slate of officers for the reorganized CRA Radio Club following an April 21 election.

Vice president is D. H. Taber (WA6YHA); secretary-treasurer, F. W. Franz (WA6VHB). W. A. Roden (WB6JWQ) is station engineer for the Kearny Mesa station, call letters W6UUS, while E. C. Hendricks (K6LBS) holds the station engineer's post for the Harbor Drive station, K6DBS.

Meeting will be held the first and third Wednesdays of each month at 7:30 p.m. Next meeting will be May 19 at the club's Harbor Drive headquarters.

Members of the CRA group assisted with the April 25 sports car Atlas Rallye, manning mobile stations at check points along the route.



CLASS WORK — Eighteen Convair and Federal Aviation Agency people attending second course on Dart-Convair engine and systems at GD/Convair late last month hear John Nowak (far right), one of three instructors, at concluding session.

Cash Awards Totaling $1,600 Go To Four Outstanding Students

Cy Campbell, chairman of the GD/Convair Management Club scholarship committee, has announced awards to the four finalists in the club's third annual scholarship event.

The scholarships are awarded to children of Convair employes.

Highest award of $800 goes to Douglas Miller of Monte Vista High School. Second place of $400 goes to Jennie Vogler of Madison High School. Third place tie awards of $200 each go to Nancy D'Abadie of Crawford High School and Frank Langer of Mt. Miguel High School.

Parents of the winners are Douglas Miller Sr., Dept. 962; Robert L. D'Abadie, Dept. 692; Robert Vogler, Dept. 405, and Francis Langer, Dept. 591.

Seventy-two applicants from 22 schools entered the contest.

Scholarship committee judges were Eric Herz, Dept. 591; Emory Thurston, Dept. 130, and Allan Wilson, Dept. 591.

Invited judges were John Hansen, president of Grossmont College, Henry Boney, county supervisor, and Ivor deKirby, San Diego City councilman.

Awards will be presented at the Management Club meeting in the Community Concourse May 18.

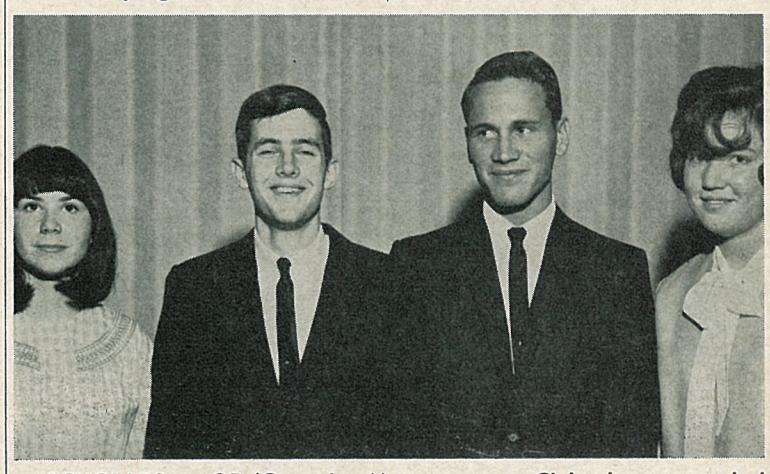
Ballroom Dancing Classes to Start

New beginning classes in ballroom dancing will start June 7 under CRA sponsorship for all General Dynamics people. Intermediate classes, now in progress, will also be open for registration.

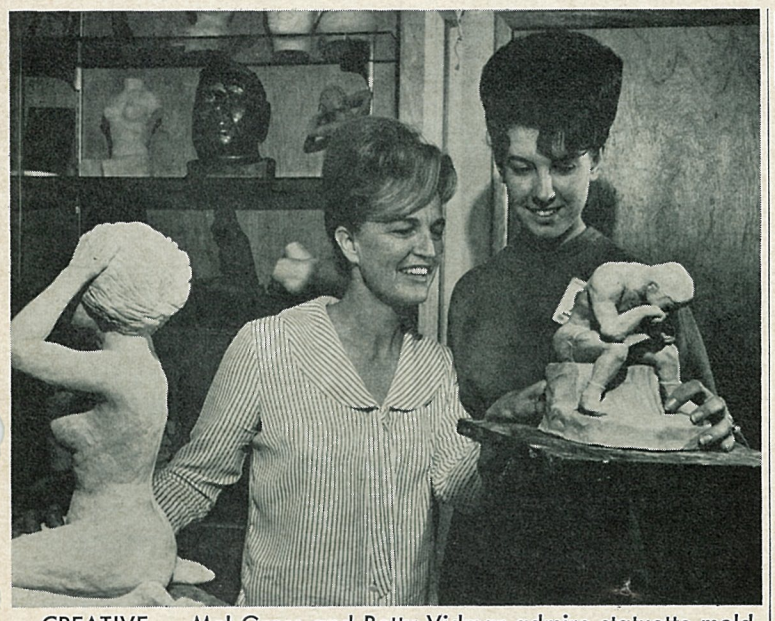
Classes will be given weekly in the CRA Clubhouse auditorium, Kearny Mesa, for 12 weeks. Beginners classes will be at 7 p.m. and intermediate classes at 8:30 p.m.

Professional instruction is provided for a total cost of $18 per couple.

For information call Royce Riggan, Lindbergh Field plant, ext. 1923 or 1459.



SCHOLARS — GD/Convair Management Club has awarded scholarships to, from left: Nancy D'Abadie ($200), Douglas Miller ($800), Frank Langer ($200), and Jennie Vogler ($400).



CREATIVE — Mel Gross and Betty Vidmar admire statuette molded by Carol Freno in Sculpture Club work sessions with display case of members' work in background. Figure at left is one of 14 sculptures produced by Mrs. Gross since club was formed a year ago.

Seventy-Five Sports Cars Vie In CRA's Atlas Rallye VII

Seventy-five sports cars went the whole route in CRA's Atlas Rallye VII April 25, covering 304 miles from Kearny Mesa through Escondido, Pala, Temecula, Hemet, Idyllwild, Warner Springs, Palomar Mountain, and back through San Marcos, Rancho Santa Fe, Del Mar, to the finish point at Torrey Pines Inn. Driving time was 9 hours and 24 minutes.

Don Westphal of the La Jolla Sports Car Club and Gary Carriveau teamed to drive their Porsche the entire way with only 1.30-min. error for first place in the navigational class.

Second best record out of the 21 cars finishing in that class was 1.74-min. error achieved by Ken Collins and Shirley Steel of the South Bay Sports Car Club, driving a Mustang.

Third spot went to John Star and Leo Abbot of the Rallye and Touring Society in a Jaguar XK-E with 2.99-min. error.

First place in the "seat of pants" class, out of 54 cars entered, was taken by Harry Faulwelter and Andy Keksis, Corvair Owners Club, driving a Corvair with 2.72-min. error. Third best record was made by Willie Knight of San Diego Sports Car Club and Barbara Knight, Women on Wheels, 4.69-min. error in their Alfa Romeo.

Bette James of Women on Wheels club and Gladys Hawkins of Coronado Sports Car Club drove a Porsche to take third spot with 4.84-min. error.

CRA Radio Club contributed immeasurably to the success of the championship rally by providing two-way radio communication between the checkpoints and the rallymaster, Jack Gallant.

Sculpture Club Seeks Members

CRA Sculpture Club launches a membership drive to draw all interested Convair people, with or without previous training or experience, into the group's workshop sessions as it ends its first year.

Some 20 members, mostly beginners in the art, meet each week in CRA Clubhouse workshop room to shape their original concepts into realistic statues and figurines. Most work in terra cotta. Some choose to carve wood or shape metal, and others prefer the potter's wheel.

Although, so far, they have had no formal instruction, their creations show hours of patient work and study. A library of texts on fundamentals and techniques of sculpturing, purchased with CRA funds, is available on a check-out basis. Plaster models provide basic patterns for shaping heads and other parts of the body. Materials can be purchased through CRA at reduced prices and kilns are located adjacent to the workshop for baking figures.

Weekly workshop gatherings, where members exchange ideas, pool information, and help each other with projects, are Mondays from 7:30 to 10 p.m. A $1 per year membership fee is the only charge and goes toward purchase of club materials or defraying expense of social events.

Officers now concluding their terms of office are: Mel Gross, president; Jerry Hornyak, vice president; Betty Vidmar, secretary-treasurer; Carol Freno, librarian.

Anyone interested in visiting the meetings may call Betty at ext. 1164, Kearny Mesa.

Gen. Atomic Girls Win Tecolote Golf

Two General Atomic girls placed one-two in the GD Women's Golf Club's April tourney at Sam Snead's Tecolote Canyon course.

In first spot was Polly Church. Runner-up was Joan Green. Margaret Clark of Convair was third; Nell Bartlett of Stromberg-Carlson, fourth; and Rachel Hackney, General Atomic, fifth.

Margery Gibson of Convair had low gross score.

Election of officers was slated following the May 8 tournament at Lakeside course.

Plant Bowling Begins Saturday

Entries in CRA's second plant bowling championship tourney will be taken right up until keglers roll into action this Saturday, May 15, Commissioner Forest Erwin, tournament director, announced.

The tourney, originally scheduled as 8th ARA plant championship event, will be this Saturday and Sunday at Clairemont Bowl.

Team events are scheduled Saturday afternoon with doubles and singles the following day. Entry fee is $3 per person for each event entered and $1 extra for all-events eligibility.

Forms are available at plant employe services outlets and at Clairemont Bowl. Erwin may be contacted on ext. 2884, Kearny Mesa, for further information.

Last Call Summons Summer Bowlers

Last call is out for keglers to fill spots in the CRA summer bowling league due to go into play next week.

Open are leagues bowling Tuesdays at Clairemont Bowl and Parkway Bowl; Wednesdays, Pacific Recreation; Thursdays, Pacific Beach Bowl, Victory Lanes, Frontier Lanes, Pacific Recreation; Fridays, Clairemont Bowl.

League bowling starts at 6:30 p.m. at all locations.

Registration may be made with Commissioner Mike Brooks, ext. 410, Plant 19, or Commissioner Forest Erwin, ext. 2884, Kearny Mesa.

CRA Calendar

(Convair Recreation Association has 40 activities in operation for Convair, GD/Electronics, Stromberg-Carlson employes. For information call CRA Headquarters, Kearny Mesa, ext. 1111.

Deadline for news for next issue of GD/NEWS is May 19 by noon, if possible.)

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BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Register before May 15 for CRA plant championship tourney May 15-16 at Clairemont Bowl. Application forms at employe services and Clairemont Bowl. Sign now for summer leagues. Call Mike Brooks, ext. 410, Plant 19, or Forest Erwin, ext. 2884, Kearny Mesa.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COIN CLUB — Meeting May 19, 7:30 p.m., Convair cafeteria, Pacific Hwy.

DELTA DIVERS — Meeting May 12, 7:30 p.m., CRA Clubhouse.

EXPLORERS — Meeting May 19, 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB — Meeting May 19, Gillespie Field Clubhouse, potluck dinner at 6:30 p.m.; meeting at 7:30.

GUN CLUB—Registered ATA trapshoot May 23; Troy trapshoot May 30, both at Gillespie Field Range.

ICE SKATING — General Dynamics skate nights, Thursdays, 6-7:45 p.m., Mission Valley Ice Arena.

JUNIOR RIFLEERS — Meeting May 19, 7 p.m., CRA Clubhouse. Shoot May 15, 8 a.m., CRA Gun Club Range.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot May 23, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting May 19, 7:30 p.m., Harbor Drive club headquarters.

RIDING CLUB — Meeting tonight (May 12), 7:30 p.m., CRA Clubhouse. Fun show all day May 15, Kearny Mesa horse ring. Spectators welcome.

RIFLE CLUB — Match May 16, S. D. County Fish and Game Assoc. range; meeting May 19, 7:30 p.m., CRA Clubhouse. Hunter safety course starts May 14, 7-9 p.m., Gillespie Field.

ROLLER SKATING — GD skate night May 17, Skateland, Front and G Sts. Tickets at employe services outlets.

SCULPTURE — Workshops Monday evenings, 7:30 p.m., CRA Clubhouse.

SPORTS CAR CLUB — Meeting tonight (May 12) Convair executive dining room, Pacific Hwy., 7:30 p.m.

SWIMMING — Free family swim night May 15, 7-9 p.m., Mission Beach Plunge. Tickets at employe services outlets.

TRAILER CLUB — Outing to Idyllwild May 14-16. Meeting May 20, 7:30 p.m., CRA Clubhouse.

Special Rate Offered To Moorehead Play

A special discount has been arranged for GD people to Agnes Moorehead's performance in "Come Closer . . . I'll Give You An Earful," Friday, May 21, 8:30 p.m. in the Civic Theater.

GD ticket-buyers can get a 25 per cent reduction in rates by presenting ID cards at time of purchase at Community Concourse Box Office, or any Highlander store. Regular prices are $4, $3, and $2.



CLUB WINNERS — Top photo shows Fabricators bowling team which swept Management Club keg play in winter season, from left, Red Baxter, Spike Merritt, Russ Davis, Bob Beasley, Gerry Cox. Top individual winners, in lower shot, are (from left) John Huss, Most Improved Bowler; Art Medrano, high handicap game; Ray McIntyre, high scratch series; Ralph Montgomery, high scratch game and Bowler of Year. Glen Steed, holder of high handicap series score, was not in photo.

Fabricators Team Dominates Mgt. Club Winter Keg League

Fabricators swept the Convair Management Club winter bowling league with most games won, 71½ out of 112, in 29 weeks of play at Parkway Bowl.

Receiving trophies at the April 19 awards presentation for their team's prowess were Gerry Cox, Red Baxter, Spike Merritt, Russ Davis, Bob Beasley.

The Jets' six-man group (five and an alternate) was runner-up in the 10-team league with a 67-games-won record. Members were Milt Hangen, Gordon Stickney, Jim Woodhouse, Dave Pearce, John Huss, and John Gastler.

Other awards went to Art Medrano, high individual handicap game, 278; Glen Steed, high individual handicap series, 691; Ralph Montgomery, high individual scratch game, 246; Ray McIntyre, high individual scratch series, 645.

Montgomery was tabbed Bowler of the Year for outstanding sportsmanship and Huss received Most Improved Bowler honors by raising his average 20 points.

Officers of the Management Club league were Pearce of GD/E, president; Beasley, vice president; and Vic Baros, secretary.

CRA ARRANGES TRIP TO WATCH DODGERS

General Dynamics ball fans showed so much enthusiasm for the CRA-arranged group trip to see the Dodgers play the Giants April 30, that another jaunt has been scheduled to the May 31 double-header matching the Dodgers against Cincinnati.

Since the day is a holiday for GD people, at least four busloads are expected. They will leave both Kearny Mesa and Lindbergh Field plants around 9:30 a.m. and return in the neighborhood of 8 that evening. Game time is 1 p.m. at Chavez Ravine ball park.

Entire cost of transportation and game admission is $5.50.

Sign-ups, accompanied by fee, will start tomorrow (May 13) at CRA Clubhouse, Kearny Mesa, and at Lindbergh Field employe services, Bldg. 16.

At the same time, anyone interested in joining a trip to see the Yankees vs. Dodgers in Los Angeles on June 13, is asked to list his name. If enough wish to go, CRA will charter buses.

35 WOMEN SIGN IN CRA COURSE

Thirty-five women signed for the course in food decorating now under way at CRA Clubhouse, Kearny Mesa. Gil Hutter of Prophet Co., who is instructing the 10-week course, says that this is one of the largest classes he has had. Sessions are held each Thursday afternoon.

GD/E Bowlers Grab Honors

GD/E bowlers swept a lion's share of top spots in CRA's 24th annual plant championship, winning both men's and mixed team events and men's all-events.

Charles McKerlie of GD/E was top man bowler with a total of 1,922 pins in all events. Dot Simmons of Convair rolled a total of 1,758 to top all women entered in the two-weekend competition April 24-25 and May 1-2 at Pacific Recreation.

Altogether, 255 bowlers from San Diego-located divisions vied in the CRA-sponsored tourney, which was called a "big success" by Co-commissioners Mike Brooks, Jim Hayman, and Forest Erwin.

GD/E's Production Control team rolled 3,021 pins to take men's team honors. Members were Hugh Wilson, McKerlie, Norm Neault, John Graves, and Ernest Frost.

Mixed team event was won by another GD/E five, the Creepers. Score was 2,886. Members were Bill Flanagan, Fran and Jack Plumley, Dot Simmons, and George Price.

Buck Pieters and Bill Binder won men's doubles with 1,306. Mixed doubles went to Jackie and Fred Groesbeck, 1,255. Jackie's 657 won her the women's singles title. Men's singles was won by Gordon Branch with 696.

Gold Piece Raffle To Mark Meeting

This month's meeting of the reorganized CRA Coin Club will be next week, Wednesday (May 19), at 7:30 p.m., in the main Convair cofeteria, Pacific Hwy.

Highlight will be raffle of a $10 gold piece and a Maria Theresa thaler (Austrian coin). Also on the program will be a door prize and a free "give-away" coin, besides refreshments and auction. Members and guests are urged to enter exhibits in the bourse and evening's numismatic display.

Grumman Pilot Checked, Will Fly Navy F-111B

The man slated to fly the first Navy version of the F-111 already feels "at home" in the variable wing fighter.

Ralph D. Donnell, Grumman Aircraft Engineering Corporation test pilot, was at the helm throughout a routine 90-minute checkout flight in F-111A No. 2 at GD/Fort Worth.

"It takes all of five seconds to feel at home in the aircraft," Donnell told Dick Johnson, GD/FW director of flight, after touching down at the Carswell AFB strip.

The first F-111B is scheduled to be rolled out next month at Grumman's Peconic River facility on Long Island.

Donnell, who has flown most of the aircraft produced in the past 20 years at Grumman, will pilot the Navy version on its maiden flight. He is the first man other than GD pilots to fly an F-111.

Co-pilot on the flight was Val Prahl, GD/FW test pilot who had made all 10 previous flights of No. 2 aircraft. He was co-pilot for the first F-111 flight Dec. 21, 1964, and for each of the first seven flights of F-111 No. 1.

Prior to Donnell's flight, F-111 No. 2 had made a 1-hour, 5-minute flight the same day. It marked the third consecutive supersonic flight (Mach 1.2) for the airplane and the first time it had operated at 40,000 feet.

Grumman is GD/Fort Worth's principal subcontractor on the F-111. The company produces aft fuselage sections for all F-111s and performs final assembly and flight testing of F-111Bs for the Navy.

A total of 454 F-111s are now in the U. S. program—23 in the development phase and 431 in the production phase. The first order is made up of 18 aircraft for the Air Force and five for the Navy. The second order includes 24 for the Navy and 407 for Air Force.

Charles Freeman To Head Explorers

Charles Freeman was elected president of CRA Explorers at last month's meeting. Vice president is Jordan "Sandy" Blum; and secretary-treasurer, Hal Nicholas.

Next regular meeting of the family camping, hiking, and outing club which confines its activities to primitive areas, will be next Wednesday (May 19) at 7:30 p.m. in the CRA Clubhouse. At that time plans will be firmed for a May 22-23 field trip.

Bargain in Movie Ducats Continued

General Dynamics people may still get their reduced-price tickets to the May 25 showing of the movie, "The Greatest Story Ever Told," running at the Center Theatre, Mission Valley.

Regular $3 tickets are on sale to GD people for $2.40.

They may be purchased for the "one night only" performance up until May 21 at: CRA Clubhouse, Kearny Mesa; Convair employe services outlets at Kearny Mesa and Lindbergh Field, AF Plant 19, Rose Canyon; GD/E and Stromberg-Carlson employe services, Plants 1 and 2.

GD/E and S-C Wives Will Lunch May 20

GD/Electronics and Stromberg-Carlson wives will hold their monthly luncheon May 20 at the Four Winds Restaurant, 2604 Fifth Ave.

Reservations must be made by next Monday, May 17, by calling either of the co-hostesses: Mrs. C. C. Slaght, 448-2013, or Mrs. A. D. Melvin, 284-4560.

'Dry Immersion Bed' Developed From Zero Gravity Simulator

A device designed by Dr. R. C. Armstrong, chief of GD/Convair's life sciences section, may assist the medical profession in easing suffering, improving therapeutic techniques, and hastening the recovery of certain patients.

Called a dry immersion bed, the device simulates the weightlessness of space flight.

In the bed, the patient lies on a waterproof sheet and literally "floats" in water while remaining dry. Because he is buoyantly supported, he has minimum pressure against any part of his body.

Dr. Armstrong developed the bed from a unique zero gravity simulator used for manned space flight research.

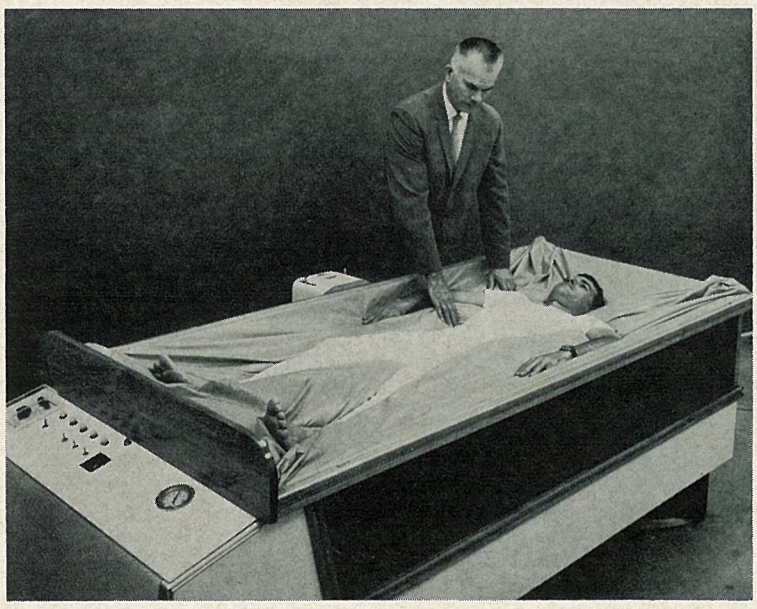
"A person lying on the bed," says Dr. Armstrong, "feels as though he is free-floating. He has little sensation of pressure on his body and practically no sensation of being supported."

Water in the tank will be circulated with a pumping system, and an infrared, external heating element will keep the patient warm.

The bed might be used in the treatment of massive skin burns; prevention and treatment of pressure-produced skin ulcers; disorders of the nerves, muscular, and skeletal systems, and circulatory disorders.

SCIENTISTS ELECTED BY OPTICS SOCIETY

Dr. John Romanko, staff scientist at GD/Fort Worth's Nuclear Aerospace Research Facility, has been elected 1965 president of the Optical Society of Texas, Texas Section of the Optical Society of America.



FLOATING BED—Dr. R. C. Armstrong, chief of GD/Convair's life sciences section, inventor of floating bed, stands over Ernest Casco, Dept. 592. Casco lies on flexible sheet supported by water. Controls at foot of bed maintain water circulation and temperature.

Technical Papers

CONVAIR

BEEMER—Roger D. "Repair Procedures for Resistance Spot and Seam Welds," 46th Annual Meeting American Welding Society, Chicago, Ill., April 26-30.

GREGG—L. T. "A Logical Model of Logical Man," IEEE Sixth National Symposium on Human Factors in Electronics, Boston, Mass., May 6-8.

HERBERT—D. E. "R. F. Deviation Measurement in the Presence of a Frequency Division Multiplex of IRIG Constant Band-width Frequencies," 17th National Aerospace Electronics Conference, May 10-12.

HERTZ—J., Dept. 504-1. "Effect of Thickness on the Tensile Properties of Vacuum Bagged Phenolic - Fiberglass Laminates." Society of Plastics Engineers Annual Technical Conference, Boston, Mass., March 1-5.

KEYSER—R. C. "Development of Two Magnetic Core Counters," 3rd International Conference on Nonlinear Magnetics," April 21-25.

McILWRAITH — C. G. "Underwater Communications," Pt. Mugu Chapter American Institute of Electrical Engineers, Oxnard, Calif.

NEWSOM—B. D. "Sanitation Aspects of Space Travel," 14th Annual State-Wide Educational Symposium of California Association of Sanitarians, April 15-16.

ROSCOE — Robert G. "Instrument Training Program at GD/Convair," Southeastern Instrument Society of America, Chattanooga, Tenn., April 28.

SCHIFF — Ed. "Structural Testing Above 3,000 Degrees F.," Spring National Meeting of Society for Experimental Stress Analysis, Denver, Colo., May 5-7.

SHAFER—W. A., Dept. 262-0. "Biomedical Problems Concerning Man in Space," abstract, California Chapter of the American College of Chest Physicians, San Francisco, Calif., March 27.

Presenting papers at 11th Annual Institute of Environmental Sciences Technical Meeting, Chicago, Ill., April 21-23 were: R. H. HAGER JR., "A Method of Testing Dry Film Lubricants in an Ultra-High Vacuum"; E. A. HARRS JR. and B. D. NEWSOM, "A Manned Revolving Space Station Simulator"; H. L. OBERTREIS, "Insulation of Susceptible Electronic Components from Missile Lift-off Vibration and Acoustic Environment."

Presenting papers at the Sixth Annual Structures and Materials Conference, AIAA, Palm Springs, Calif., April 5-7, were:

DHARMARAJAN—S. N. "Thermal Stresses in Laminated Anisotropic Cylindrical Pressure Vessels." DHARMARAJAN, M. M. CHIRICO, and E. J. KAMINSKI, "Thermal Stresses in Sandwich Cylinders."

EULBERG—A. C. "Structural Composite Selection for Manned Lifting Reentry by Systems Analysis."

FAGER—J. A. and R. E. CARLSON, "Effects on Hypervelocity Impact on Semi-infinite Plate and Composite Spacecraft Hulls from 28,000 fps to 100,000 fps."

GINGERICH—A. L. and S. N. DHARMARAJAN, "Large Axisymmetric Deformation Theory of Orthotropic Shells of Revolution."

MYHRE—S. H. "Optimum Design of Compression Loaded Cylinders with Arbitrary Design Restrictions."

RUSCIGNO—Harry. "Development of a Low Payload/Loss External Thermal Insulation System for the Liquid Hydrogen Tank of the Centaur Space Vehicle."

WISSMANN—J. W. "Nonlinear Structural Analysis of an Unstable Aircraft Wing."

YANG—C. T. "Crack Propagation Study of High Strength Alloys."

POMONA

McCAFFREY—F. K., Dept. 27, "Integrated Reliability, Quality and Corrective Action Systems," 19th Annual Technical Conference and Exhibit, Biltmore Hotel, Los Angeles, May 5.

MIX—Raymond F., Dept. 6, "Ferrite Phase Shifters and Antenna Circuit Elements," GMTT Symposium IEEE, May 5, 6, 7.

ELECTRONICS—ROCHESTER

JOHNSTONE—N. "Automatic Checkout of Single Sideband Radio Sets," 17th National Aerospace Electronics Conference, May 10-12.

UNTERLEITNER—F. C. and E. I. HORMATS. "Rates of Decay of Phosphorescence from Triphenylene in Acrylic Polymers," submitted to Journal of Physical Chemistry.

WALKER—W. F. "The Error Performance of a Class of Binary Communications Systems in Fading and Noise," published in IEEE Transactions of the Professional Technical Group on Communications Systems, Vol. CS-12, No. 1.

STROMBERG-CARLSON

POMMERENING—U. A. "A Multi-Frequency Signaling Detector Using Digital Techniques," IEEE International Convention, New York.

Six Dynamics Men Will Attend Parley

Six General Dynamics men will have active parts in the coming Society of Automotive Engineers' Aerospace Fluid Power Systems and Equipment Conference at the Statler-Hilton Hotel, Los Angeles, Calif., May 18-20.

Representing Convair will be Charles M. Richards, design specialist, who chairs the Seals and Flange Design session; Howard D. Davis, design specialist, chairman of the session on Contamination Problems; Howard E. Wright, chief of fluid and mechanical systems, chairman of Gas Fluid Power Systems session.

R. E. Huber, Convair design specialist, will give a paper, "Simplified Analysis of a Gas-Powered Servo Actuator." Richard C. Alden Jr., senior design engineer, and Roger N. Parsons, design engineer, both GD/Fort Worth, will present "F-111 Hydraulic System Design."

NATIONAL DRIVERS TEST

TEST FORM

A. JUDGMENT
Defensive Driving Techniques

circle correct letter

	Score
1. a. b. c. d.	☐
2. a. b. c. d.	☐
3. a. b. c. d.	☐

B. KNOWLEDGE
Rules of the Road:

circle T (true) or F (false)

	Score		Score		Score
1. T.F.	☐	6. T.F.	☐	11. T.F.	☐
2. T.F.	☐	7. T.F.	☐	12. T.F.	☐
3. T.F.	☐	8. T.F.	☐	13. T.F.	☐
4. T.F.	☐	9. T.F.	☐	14. T.F.	☐
5. T.F.	☐	10. T.F.	☐	15. T.F.	☐

C. PERCEPTION
Hazards Alertness

1. List the number of driving hazards you have seen

NUMBER ( ) SCORE ☐

D. SPECIAL

circle correct letter

	Score
1. a. b. c. d.	☐
2. a. b. c. d.	☐

TOTAL SCORE ☐

Clip and save test form above for use during television "National Drivers Test" evening of May 24 over CBS. It is printed for convenience in taking test and marking scores for comparison. A number of GD divisions will make forms available through employe service outlets.

National Driving Quiz Scheduled

A public service, hour-long television show, "The National Drivers' Test," will be aired over CBS Monday evening, May 24, coast to coast.

The exact time will vary somewhat depending upon time zone.

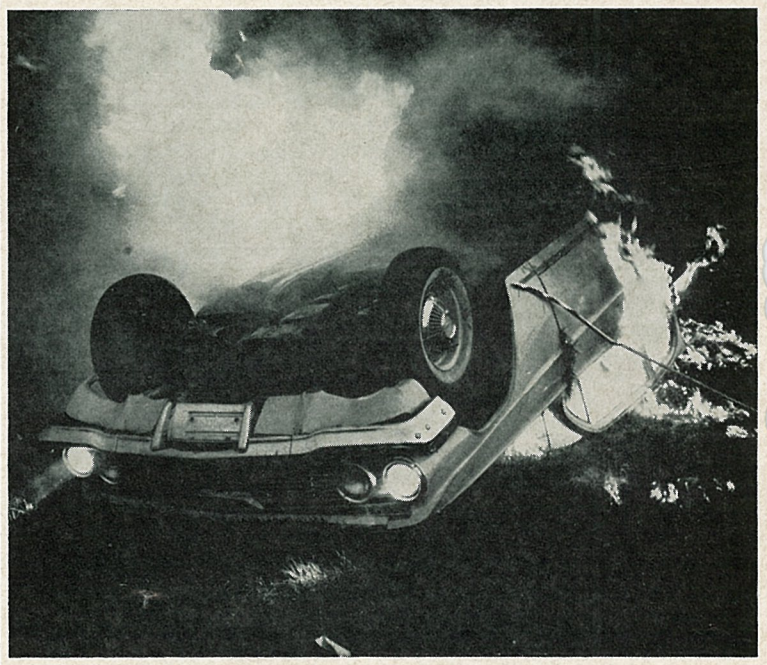
The most massive one-shot safety communication effort of all time, the show was carefully arranged to be not only absorbing but educational at the same time, with the viewer actively participating by jotting down answers to test questions as they are brought forth on the screen in actual driving situations.

General Dynamics safety engineers strongly recommended that all GD drivers take advantage of the test to point up the strong points in their driving skill and expose weaknesses.

As the viewer fills out his own test form at home, he will actually be competing against the entire nation. He will grade himself (answers will be given on the show) and his performance can be compared with that of a scientifically selected sample of "students." The sample will consist of 1,250 drivers (a cross-section in terms of sex, age and experience) taking the test at six CBS stations. Their answers will be tabulated almost instantly by IBM and reported on the screen.

Specially prepared film sequences will illustrate each question and will be shown both in slow-motion and at normal speed to permit the viewer to share the experience of a collision or a near-collision. Essentially, the questions will test drivers on their judgment in two-car situations, on knowledge of rules of the road, and on ability to perceive driving hazards.

The idea for the show hatched a year and a half ago when Fred Friendly, now president of CBS News, was ticketed for a violation and "sentenced" to take a driver improvement course. Far from being antagonistic, Friendly was enthusiastic about the course and started the ball rolling on a grand scale. Strong support came from the National Safety Council and many other organizations. Now, months of hard work later, the show is ready.



THE REAL THING — Taken during filming of CBS show "The National Drivers' Test," result of one error in driving is graphically illustrated, above. Cost to film in terms of auto damage must have been considerable. Show is scheduled May 24, coast to coast.

Pulse and Breathing Monitored Without Attachments to Body

The pulse and breathing rate of an astronaut in space or a patient in a hospital bed can be measured without any instruments connected to the subject's body, according to Dr. W. A. Shafer of GD/Convair's life sciences section.

The first public demonstration of such a monitoring system was held at the Aerospace Medical Association's annual meeting in New York City last month.

Called a "field distortion monitoring system," it permits the pulse and respiration of a subject to be followed without the discomfort of electrodes or sensors being attached to the subject's body.

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 11 PUBLISHED BY GENERAL DYNAMICS CORPORATION 52 Wednesday, May 26, 1965



THE WHITE HOUSE
WASHINGTON

April 26, 1965

Dear Mr. Lewis:

In my letter to you in December 1963, I asked that you join with other Defense contractors in a positive program of cost reduction to help guarantee our country a maximum of defense at a minimum of cost. It was most gratifying, therefore, to see your company listed among those firms recently called to my attention by the Secretary of Defense as having responded vigorously and effectively to that request.

You will be pleased to know that seventy-eight of America's largest Defense contractors -- your own firm included -- have formally pledged themselves to this continuing effort toward greater economy, and that those pledges are being daily redeemed in significant cost reductions. As promised in my initial letter, such achievements will be a significant factor in determining future source selections, and in establishing profit and fee rates for non-competitive negotiated contracts.

As you are doubtless aware, several of your own contributions to lowering Defense costs were prominent among the Cost Reduction Exhibits displayed at the Defense Department's recent Advanced Planning Briefings for Industry. You have reason to be proud of your contributions to this vital program.

Please accept my personal thanks for the achievements you have made, and for those which I am certain you will accomplish in the years ahead. You have justified my optimism that, together, we can achieve our common goal of a dollar's worth of defense for every dollar spent.

Sincerely,
Lyndon B. Johnson

Mr. Roger Lewis
President
General Dynamics Corporation

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INTRA-CORPORATION
COMMUNICATION

DATE: May 4, 1965
TO: Division Managers
FROM: Max Golden
SUBJECT: 1964 COST REDUCTION/PROFIT IMPROVEMENT PROGRAM

I am pleased to forward to you a copy of the letter received from President Lyndon B. Johnson concerning General Dynamics participation in the Defense Contractors' Cost Reduction program and in the recent Cost Reduction Exhibits associated with DOD's Advanced Planning Briefings for Industry.

You and your division are to be congratulated for a fine performance in this effort through your Cost Reduction/Profit Improvement Program. Your personal interest in this program has certainly been important to its success and I am most confident it will continue to be so in the future.

J. R. 'Bob' King Wins Election As New Mgt. Club President

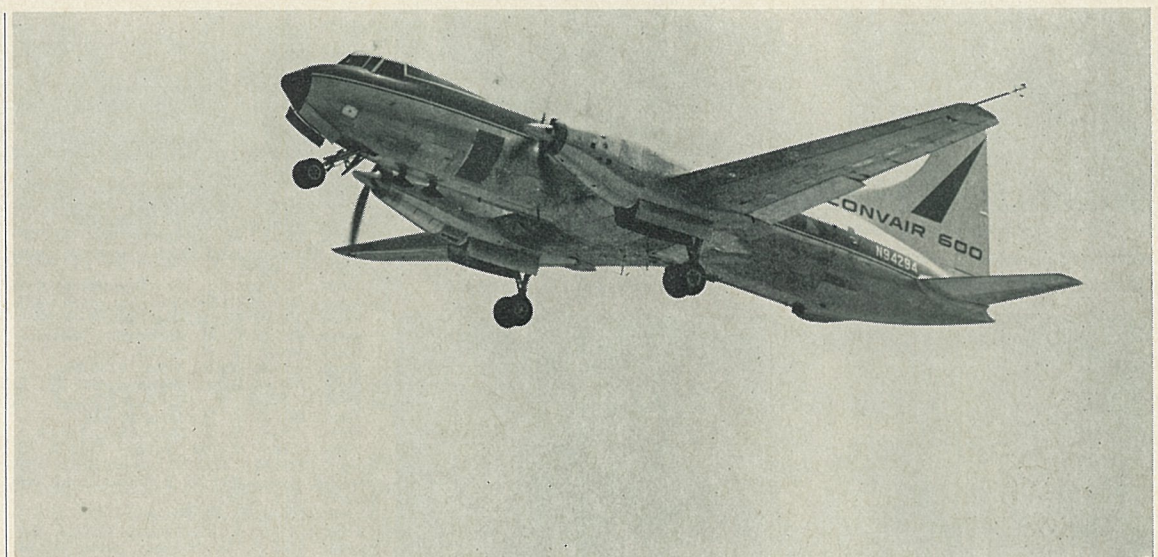
J. R. "Bob" King will head the newly-reorganized GD/Convair Management Club as president. Election results were announced at the May 18 meeting.

Other new officers are: first vice president, M. L. Sweeney; second vice president, J. W. Coddou; recording secretary, Harold Hahn; financial secretary, G. J. Gonlag; treasurer, A. J. Braidic.

G. K. Cox was elected to board of control for one year. P. R. Green and J. W. Woodhouse were elected to the board for three-year terms.

Remaining board members are A. Amison, D. R. Dayharsh, M. L. Bjorstrom, J. E. Leib, M. C. Tomb-

(Continued on Page 2)



IN FLIGHT — Convair 600, updated Convair-Liner powered by Rolls-Royce turboprop engines, flew for first time May 20 with John W. Knebel, Convair chief test pilot at controls. "It couldn't have been better," Knebel exclaimed after 1 ½-hr. flight off Southern California coast.

Bond Buying at 76% And May Go Higher

More than 800 buyers of U.S. Savings Bonds by payroll deduction were added at GD/Convair during the May 3-14 drive for a participation percentage of 76.

This was on the basis of incomplete returns and later figures may improve this showing. Currently, more than 11,000 are buying bonds regularly.

GD/E Joining Zero Defects

A Zero Defects program goes into effect June 1 for all departments and individuals at GD/Electronics' San Diego operation.

The campaign to assure quality products and performance is aligned closely with similar programs at most other General Dynamics divisions, including the parent GD/Electronics division in Rochester, N.Y., General Manager D. C. Prim announced.

However, the GD/E program has been expanded to include all departments and sections within those departments, instead of being limited to production areas only.

"Zero Defects is a way of industrial life and is the responsibility of every employe, regardless of work assignment," said Prim. "It affects every department, every office, and every work station, including mine.

"None of us can consider our individual effort as being lost in the overall operation. Our goal, like our competitors, is to make our individual actions, and each delivered product or service completely free of defects. In other words, there will be ZERO DEFECTS!"

(Continued on Page 2)

S-C Mgt. Club Voting On New President

Stromberg-Carlson Management Club members have only two contests to vote on in the election of officers for the coming year.

Dan Macey and Ray Mattas are running against each other for president; Don Kirkman and Bob Smit are in the race for first vice president.

All other positions have but one nominee: second vice president, Joe Cyranek; secretary, Tom Bankhead; treasurer, Roy Gilmore; three-year board member, Jack Weaver.

Marked ballots must be returned by tomorrow (May 27) to Dick Thoman, chairman of the election committee. Results will be announced at the June 16 meeting in the Bronze Room Restaurant, La Mesa.

Depts. 733 and 002 Win 'Do Good Work' in April

Winners for April in GD/Convair's Do Good Work program are Depts. 733, processing, at the Kearny Mesa plant, and 002, processing and welding, at the Lindbergh Field plant.

Convair President James R. Dempsey presented the awards to General Foreman M. M. Goodhart of Dept. 733 and Foreman G. K. Cox of Dept. 002.

Dept. 733 had a quality index of 111.7; the quality index of Dept. 002 was 106.0.

This is the second award for each department. Dept. 733 won in May, 1964, with a quality index of 112.4; Dept. 002 won last month with a quality index of 105.4.

Runner-up at the Kearny Mesa plant was Dept. 454 with a quality index of 112.4; runner-up at Lindbergh Field was Dept. 031 with a quality index of 103.9.

Departments entering the Do Good Work competition for the first time in April were Dept. 974, Centaur test operations; Dept. 576-33, fabrication and maintenance shops at WTR; and Complex 36-B (Centaur) at ETR.



APRIL CRAFTSMEN — In upper photo, Convair President J. R. Dempsey awards G. K. Cox second Craftsmen of Month award in row for Dept. 002 at Lindbergh Field. M. M. Goodhart accepts award (lower shot) for Dept. 733 at Kearny Mesa.

Supplier Display Held Simultaneously With Third Value Engineering Seminar

The third 40-hour value engineering workshop of 1965 was held at GD/Convair May 10-21.

The workshop was conducted in conjunction with a product supplier display.

E. D. Heller, Convair manager of cost reduction and value control, said that the suppliers of products, materials, and services had been invited to the workshop to aid in the two-way understanding of Convair's needs and suppliers' capabilities.

The workshop was coordinated by Everett Lindem and Hal Sicard of Convair's educational services group.

Teams and their projects were:

Team #1—Retro Rocket Fairing Assembly (submitted by George Webber, operations). D. A. Anderson, Dept. 584-1; E. W. Carlson, Dept. 530-0; J. L. Ottoman, Dept. 450-0; B. J. Tanonis, Dept. 561-0; J. L. White, Dept. 041-0. Project leader, M. G. Williams, Dept. 780-2.

Team #2—Door Sill B1 Equipment Pod Support Assembly (submitted by W. R. Willcutt, engineering). T. A. Anderson, Dept. 835-4; George Bakich, Dept. 963-2; Jack Christian, Dept. 572-1; F. L. L'Heureux, Dept. 552-1; John Madryga, Dept. 552-2; E. A. Lipovsky, AFPRO. Project leader, Williams.

Team #3 — Helium Bottle Support Bracket (submitted by Willcutt). H. O. Brook, Dept. 195-0; G. J. Colopy, Dept. 553-2; Carl Erickson, Dept. 562-2; Harold Wilson, Dept. 490-0; R. C. Zuranski, Dept. 552-1. Project leader, R. C. Emerson, Dept. 403-3.

Team #4—Fairing Fairlead Installation (submitted by Webber). S. H. Myhre, Dept. 557-1; G. K. Phares, Dept.

(Continued on Page 4)

Log Book Entries

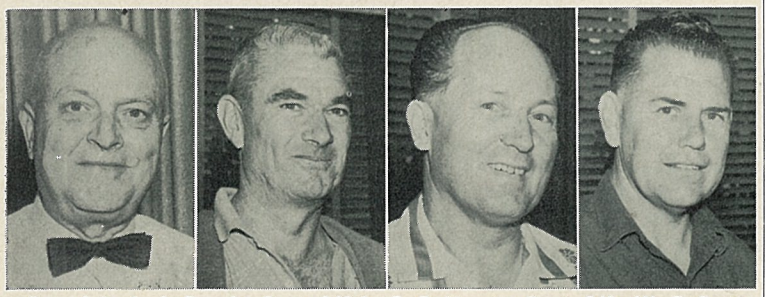
25-Year Men Recognized



25 YEARS — M. V. Wisdom, GD/Convair director of industrial relations, receives 25-year pin from President James R. Dempsey during staff conference May 17.



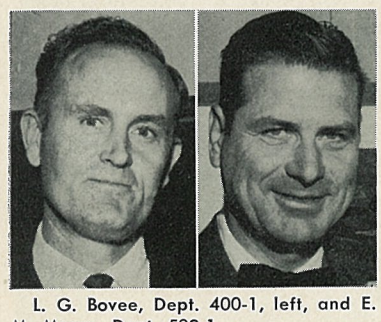
From left: W. J. Butts, Dept. 978-3; L. F. Cescolini, Dept. 972; R. W. Gluyas, Dept. 401-1; D. V. Neece, Dept. 401-4.



From left: L. J. Francis, Dept. 149-1; C. F. Hagata, Dept. 041; W. E. Porter, Dept. 031; V. T. Winsor, Dept. 041.



From left: H. E. Rasmussen, Dept. 149-2; Leonard V. Wisniew, Dept. 831-1; F. L. Olson, Dept. 821-2; C. G. Goatley, Dept. 031.



L. G. Bovee, Dept. 400-1, left, and E. M. Moore, Dept. 509-1.

Invention Disclosures

CONVAIR

FIGUEROA—L. M., Dept. 585-3. Self-Stabilizing Float System.

GLAUBIUS—W. A., Dept. 588. Pressure Gradient Duct.

WHITSITT—J. E., Dept. 562-2. Separable and Flanged Fluid Tube Connectors.

WRENCH—E. H., Dept. 596-0. Self-Erecting Structure.

ZEISS—C. A., Dept. 10-0. Audio Warning System for Seat Belts, Headlights, and Parking Brake.

Births

CONVAIR

BEHLMAN—Daughter, Theresa Marian, 8 lbs., 2 oz., born May 7 to Mr. and Mrs. Ray D. Behlman, Dept. 970-1.

TUCKER—Daughter, Karen, 6 lbs., 10 oz., born Jan. 20 to Mr. and Mrs. Leonard T. Tucker, Dept. 780-3.

YANG—Daughter, Lisa, 7 lbs., 4 oz., born April 29 to Mr. and Mrs. Charles T. Yang, Dept. 572-0.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, June 7, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, June 29, 8 a.m., Bldg. 14 Auditorium; second shift, Tuesday, June 29, 4:30 p.m., Bldg. 14 Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT PROGRAM—Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours, daily, 7-8 a.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa. Group 1: June 7, 8, 9, 10; Group 2: June 14, 15, 16, 17; Group 3: June 21, 22, 23, 24; Group 4: June 28, 29, 30, July 1; Group 5, July 12, 13, 14, 15.

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours. Daily, morning classes, 8 a.m.-noon, June 7-18. CRA Clubhouse auditorium. Kearny Mesa.

PLASTIC SAFETY—Hal Rubin. Limited enrollment. Lindbergh Field, Bldg. 14. Call ext. 491, Lindbergh Field, for time and dates.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

PRATT & WHITNEY RL10A3-3 ENGINE—Pratt & Whitney staff. Limited enrollment. Call ext. 1931, Kearny Mesa, for information. Twenty hours. Class I, 7:30 a.m.-11:30 a.m., Room 7, Bldg. 17, June 14-18; Class II, 12:30 p.m.-4:30 p.m., Room 7, Bldg. 17, June 14-18, Kearny Mesa.

AFTER HOURS TRAINING IN-PLANT

BOOLEAN APPLICATIONS TO ENGINEERING—Jim Hanratty, ext. 1931, Kearny Mesa. Twenty hours, Tuesdays, June 15-Aug. 10; 5-7 p.m., Room 2, Bldg. 17, Kearny Mesa.

SECRETARIAL ACCOUNTING (City College)—Jack Hanning. One semester. Each class session 3 hours, Wednesdays, 5:30-8:30 p.m., Kearny Mesa, May 12-Sept. 15. For information and reservations call Laura, ext. 1931, Kearny Mesa.

NON-DESTRUCTIVE TESTING — D. C. Ryle, ext. 1767, Kearny Mesa. Co-sponsored by Society for Non-Destructive Testing. Tuition, $35. Total, 72 hours. Part I: classroom, 48 hours. Thursdays, 6:30-9:30 p.m., Lindbergh Field, Bldg. 14 Auditorium, March 4-June 17. Part II: workshop, 24 hours, Tuesdays & Wednesdays, 6:30-9:30 p.m., Lindbergh Field shop area, May 11-June 3.

Lost & Found

CONVAIR

LOST—Pair of diagonal pliers with red plastic handles bearing initials "W.V.H." and pair of 5-in. pointed scissors in Bldg. 33 engineering or laboratory at approximately Col. C-15, Kearny Mesa plant. Call Wm. Van Horn, ext. 4160, Kearny Mesa.

Awards

CONVAIR

Employe Suggestion Awards approved for the weeks ending May 7 and 14.

Dept. 102-0, R. E. Blanco, $16.80.
Dept. 115-0, V. J. Rocco, $31.60.
Dept. 119-0, R. W. Talmage and P. A. Piraino (Dept. 128-0), joint award, $50 each (partial payment).
Dept. 122-0, Vernon Heger, $100.40.
Dept. 123-0, J. D. Kay, $10; F. W. Lee, $10; Don Mengason and Ray Rush, joint award, $32.20 each; Ray Rush, $28.
Dept. 125-0, A. Chelpka, $10; William Worthington, $4.60 (final payment).
Dept. 128-0, D. P. Ryan, $49.
Dept. 130-1, V. J. Raymond, $10.
Dept. 130-6, F. M. Morris, two awards, $27.60, $34.
Dept. 141-0, G. A. Hasti, $10; D. M. Sullivan, $11.80.
Dept. 142-2, L. E. Johnson, $10.
Dept. 143-1, L. Aranjo, $14; Jack Wonder, $66.50 (final payment).
Dept. 143-5, B. A. Heitman, $73.
Dept. 146-1, J. P. Silverstein, $100 (partial payment).
Dept. 146-4, H. W. Bussard, $149.70.
Dept. 146-5, J. L. Norberg, $10.
Dept. 151-0, M. E. Hurt, $15.70.
Dept. 191-0, Verna Hathaway, $28.20.
Dept. 250-0, A. Cernius and R. B. Mason, joint award, $5 each.
Dept. 250-1, W. L. Dexter Jr., $31.30; C. L. Chappell and H. R. Howard, joint award, $5 each.
Dept. 410-0, D. G. Tessereau, two awards, $19.30, $100 (partial payment).
Dept. 403 3, D. M. Carlton, $145.10.
Dept. 420-3, T. H. McManus, $53.30.
Dept. 490-0, T. C. Smith, $10.
Dept. 504-2, S. R. Njos, $138.70.
Dept. 571-3, B. J. Johnson, $60.30; E. J. McGee, $10.
Dept. 682-2, J. M. Geiger, $10.
Dept. 700-0, H. J. McDuffee, $24.30.
Dept. 733-0, L. M. Jones, $10; J. E. Kemp, $76.30; C. W. Maxfield, $100 (partial payment); F. J. Wisenberg, two awards, $13, $10.
Dept. 756-0, D. T. Farrelly, $10.
Dept. 758-0, J. Engleman, $10; J. Engleman and R. D. Hansen, joint award, $5 each.
Dept. 759-0, Robert Gordon and G. J. Monk, joint award, $5 each.
Dept. 763-0, R. L. Brown, $10.
Dept. 780-3, J. C. Walker, $34.70.
Dept. 814-0, G. A. Babcock, $10.
Dept. 814-1, E. A. Brownell, $10.
Dept. 834-1, T. B. Rogers, $10; C. E. Thornton, $10.
Dept. 835-1, R. R. Heitman, $776; W. T. Houdlette, $10.
Dept. 953-4, L. J. Gaber, $10.
Dept. 957-0, J. P. Giordano, $10.
Dept. 971-5, M. E. Dahl, $10.
Dept. 972-0, E. H. Johnson, $50.10; H. J. Oakes, $15.80; C. F. Wilkerson, $49.
Dept. 974-4, G. G. Edner, $10.

Cost Improvement Proposals approved for the same periods.

Dept. 140-0, W. J. Maloney.
Dept. 146-4, Norman Smith.
Dept. 522-1, E. J. Wiley.
Dept. 591-4, D. Arris.
Dept. 673-0, J. B. Jessop and M. L. Robinson, joint CIP.
Dept. 733-0, R. V. Brunner.
Dept. 759-0, B. L. Wolfe.
Dept. 832-3, J. M. Stoffel.

Service Emblems

CONVAIR

Service emblems due May 16 through May 31.

Thirty-year: Dept. 581-0, B. J. Simons.

Twenty-five-year: Dept. 002-0, F. M. Baxter; Dept. 031-0, W. H. Crouch, Joseph Darwell, C. G. Goatley Jr.; Dept. 041-0, C. F. Hagata, Vivian G. Reid, C. E. Rice; Dept. 071-0, L. F. Buczynski; Dept. 130-0, M. V. Wisdom; Dept. 145-1, J. J. Beckman; Dept. 401, R. W. Gluyas, D. V. Neece, F. N. Oden, H. L. Slack, K. M. Vesock; Dept. 450-0, R. C. Monson; Dept. 583-1, K. E. Ward; Dept. 761-0, R. R. Puterbaugh; Dept. 834-1, D. E. Knapp Jr.

Twenty-year: Dept. 149-2, M. C. Jorgensen; Dept. 251-1, A. E. Ward; Dept. 420-6, M. F. Gilstrap, E. L. Larson; Dept. 733-0, G. G. Bagrie; Dept. 758-0, A. L. Touchet; Dept. 837-1, J. D. Wood; Dept. 978-3, L. B. Cazort.

Fifteen-year: Dept. 001-0, Mabel B. Glaser; Dept. 019-0, Marilyn G. Sorcinelli; Dept. 024-0, D. W. Murphy; Dept. 057-0, G. W. Files; Dept. 127-0, R. M. Trease; Dept. 227-0, C. S. Johnson; Dept. 250, W. H. Herth, V. C. Somers; Dept. 400-5, R. J. LaMadrid; Dept. 401-4, Mary W. Davis; Dept. 523-4, A. H. Riffel; Dept. 563-0, A. E. Anderson; Dept. 731-0, E. H. Mass; Dept. 758-0, E. L. Dunscombe; Dept. 837-1, A. M. Swerdloff; Dept. 957-0, C. R. Lind; Dept. 966-4, Patricia O. Mayo; Dept. 974-2, J. R. Emrick.

Ten-year: Dept. 031-0, L. E. VanRiper; Dept. 127-0, L. E. Olson; Dept. 142-2, W. E. Rutkowski; Dept. 143, Doris E. Jensen, Florence S. Prowse, Dolores C. Walker; Dept. 146-1, Ralph DeSola; Dept. 227-0, Edward Dorff; Dept. 545-1, P. H. Marks; Dept. 553-3, George Cazaux; Dept. 576-1, D. C. Pritchett; Dept. 578-1, R. G. Wingfield; Dept. 587-2, W. W. Lahr.

Dept. 715-0, Satoshi Okamoto: Dept. 744-0, L. A. Greenwald; Dept. 756-0, L. A. Ruth; Dept. 758-0, Hector Silva; Dept. 780, W. D. Caldwell, Willie Gwartney, F. J. Trout; Dept. 823-0, A. T. Rounder; Dept. 951-4, R. W. Ruddy; Dept. 962-4, R. M. Overdeer; Dept. 964-2, R. W. McGuire; Dept. 976-3, W. E. Majorek; Dept. 989-2, E. F. Wasterlain.

ELECTRONICS

Fifteen-year: Dept. 5078, E. J. Moore (due May 3).

Ten-year: Dept. 4074, Esther J. Peloquin (due May 9), N. L. Dahl; Dept. 6867, C. F. Coley.

Retirements

CONVAIR

CAULFIELD — Robert, Dept. 522-4. Seniority date Dec. 21, 1950, retired March 19.

DALESSI—Marino J., Dept. 833. Seniority date Nov. 11, 1957, retired April 19.

DOMAN—Charles H. Dept. 250. Seniority date April 10, 1951, retired April 30.

EARLY — Theodore A., Dept. 44-5. Seniority date Oct. 3, 1958, retired Jan. 12.

FORMAN — Charles Z., Dept. 401-4. Seniority date March 2, 1953, retired April 15.

GALBOS—Earnest J., Dept. 130. Seniority date Oct. 2, 1958, retired April 20.

GAMEL — Leonard F., Dept. 756-0. Seniority date May 13, 1957, retired April 22.

HANDEL—John G., Dept. 14-5. Seniority date Feb. 11, 1952, retired April 7.

HILL—Charles F., Dept. 951-1. Seniority date April 21, 1953, retired April 30.

JOHNS—Earl F., Dept. 250-1. Seniority date Feb. 10, 1953, retired April 30.

JOHNSON — Alfred R., Dept. 715-0. Seniority date March 11, 1936, retired April 23.

KOCH—Walter E., Dept. 759-0. Seniority date Nov. 16, 1924, retired April 30.

MATHEWS—Vernon S., Dept. 693-0. Seniority date Aug. 29, 1947, retired April 30.

MAUL—Albert P., Dept. 731. Seniority date Sept. 18, 1958, retired April 1.

McELROY — Loren H., Dept. 644-2. Seniority date Feb. 2, 1956, retired April 23.

TRAXLER—Albert N., Dept. 42. Seniority date Dec. 1, 1950, retired Nov. 24, 1964.

WELLS—Minor J. Jr., Dept. 525-1. Seniority date Feb. 18, 1936, retired April 27.

WILBUR—Bertrand H., Dept. 91. Seniority date Feb. 11, 1952, retired April 30.

STROMBERG-CARLSON

PAUL—Ernest G., Dept. 82-60. Seniority date 1952, retired April 30.



GRADUATES — These men recently qualified for completion certificates relative to Convair Management Club courses.

Nine GD/Convair Men Finish Mgt. Courses

Nine GD/Convair men recently completed a series of three courses in management sponsored by the Management Club.

Don Slingsby, Kearny Mesa club past president, awarded certificates.

Slingsby said, "The benefits from these courses are not a black and white from one day to the next kind of change. Changes come slowly in the way you think and some day you will realize the full benefit."

Graduating students were G. R. Palmer, Dept. 958-6; C. W. Banks, Dept. 420-5; P. Torano, Dept. 250-0; W. E. Jones, Dept. 250-0; R. B. Ashe, Dept. 403-1; R. L. Kaiser, Dept. 549-6; W. M. Alberty Jr., Dept. 970-1; W. A. Eaton, Dept. 665-5; and J. M. Ibarra Jr., Dept. 193-3.

The courses, totaling approximately 44 hours, were taught by Warren Ridge, assistant to the manager of cost reduction and value control.

Rickman Promoted, Transferred to L.A.

W. E. Rickman, who has been in charge of cafeteria operations in General Dynamics' Southern California plants for seven years as district manager of the Prophet Co., was promoted last month to vice president and manager of the Western division.

In his new position he has responsibility for Prophet Co. establishments in Washington, Oregon, California, Idaho, Montana, Wyoming, Arizona, and Utah. He is headquartered in Los Angeles.

C. E. Borgatta assumes Rickman's former duties under a new title, regional manager of the Western Region 2. Borgatta has been manager of the Convair main cafeteria, Pacific Hwy., since last December and before that was in charge of the Plant 19 cafeteria.

Jack Malone succeeds Borgatta as branch manager at the Lindbergh Field cafeteria. He had been assigned to that location from May to December, 1964, when he was transferred to Kearny Mesa. Gil Hutter, manager of the cafeteria at Kearny Mesa since the plant was established there seven years ago, retains his same duties.

Salvage Schedule Arranged For June

Salvage yards at both Convair plants will be closed this Saturday (May 29) because of Memorial Day weekend.

The alternating Saturday morning schedule will continue as usual the following week. Next four-week schedule is:

Lindbergh Field Plant—June 5, 19.

Kearny Mesa Plant—June 12, 26.

'My Fair Lady' Night For GD To Be June 22

Reduced-price tickets go on sale tomorrow (May 27) at General Dynamics outlets for "My Fair Lady."

The "GD night" at the Capri Theatre will be June 22. CRA-arranged discount prices are $2.65 for $3.50 seats and $2.25 for $3 seats. All are reserved.

Tickets may be purchased at CRA Clubhouse, Kearny Mesa; Convair employe services at Kearny Mesa and Lindbergh Field plants, Plant 19, and Rose Canyon; GD/E and Stromberg-Carlson employe services, Plants 1 and 2.

GD/E Joining Zero Defects

(Continued from Page 1)

Monthly awards will go to winning sections within departments, determined on the established quality index basis. Top-performing individuals will be recognized quarterly on a basis of participation, error cause removals, supervisory review and recommendation.

A ZD committee is headed by Kent Sinclair, manager of reliability and quality control. Other members and functions they represent are Norm Ernst, design engineering; Vince Finley, industrial relations; Jack Larson, cost and price analysis; Jack Skimin, operations-manufacturing; Robert Martin, quality assurance; James Crooks Jr., senior engineering staff specialist.

S-C Daughter and Son Accept Scholarships

A daughter and a son of Stromberg-Carlson Data Products employes have received scholarships to Occidental College for the next school year.

Lauren Sue Jones, whose mother, Lola, is an electronic assembler at the Hancock St. facility, had her choice of scholarships to Pomona College or Occidental. Karl Castillo (mother, Tommie, is also an electronic assembler) was offered scholarships to three colleges—USC, University of California at San Diego, or Occidental.

Lauren Sue will graduate this semester from Lincoln High School as valedictorian. She also has served as student body president. Karl graduates from Claremont High where he has been active in wrestling, gymnastics, baseball.

J. R. King Elected Mgt. Club Prexy

(Continued from Page 1)

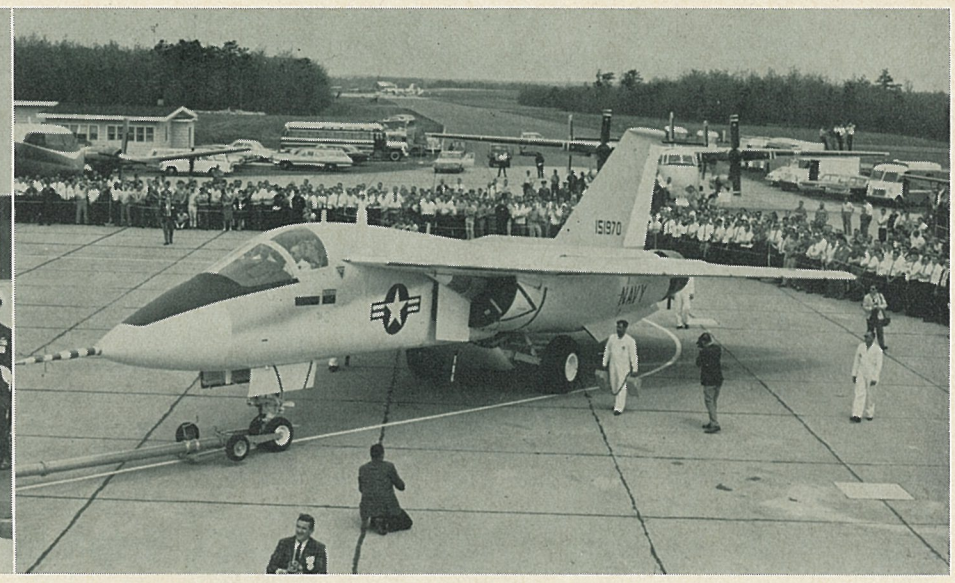
ler, D. P. Wright, D. J. Slingsby, W. J. Wood, and L. J. Solheid.

Installation will take place June 2 at the Balboa Club, Balboa Park. Tickets are $2 for an evening of beer, spaghetti, and good fellowship. They may be purchased from Boosters at both plants.

EVENING STUDY LEADS TO DEGREE

Ray Behlman, Convair spares analyst in Centaur requirements at Kearny Mesa plant, has achieved a years-long goal. He received his bachelor of science degree in business management from San Diego State College at the conclusion of the last semester after 11 years of evening classes.





ROLL-OUT — Crowd estimated at 3,000 saw F-111B (Navy version of variable wing plane) rolled out at Grumman Aircraft's Peconic River plant this month, ahead of schedule. Roger Lewis, president of General Dynamics Corporation, is shown at microphone during ceremonies which included remarks from many distinguished guests including Secretary of the Navy Paul H. Nitze. Successful first flight for the Navy plane followed exactly a week after roll-out.

Major Components Sent to Cape For Next Centaur Launch

Three of the four major components for the next R&D flight of the Centaur space vehicle left San Diego by air for Cape Kennedy May 14.

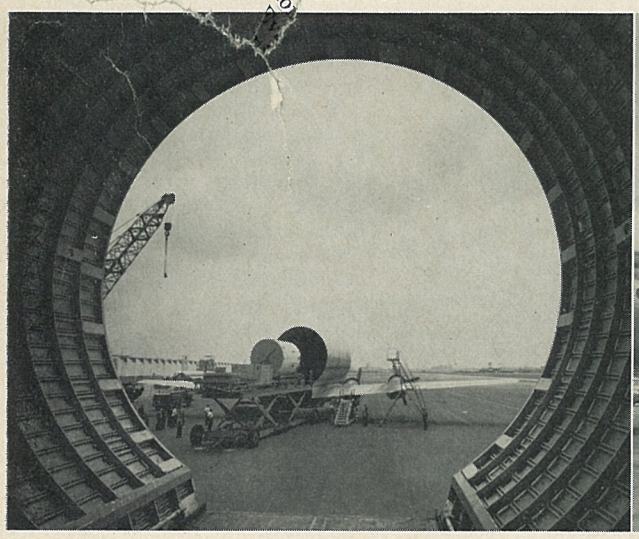
At the Lindbergh Field plant, the interstage adapter and a model of the Surveyor spacecraft for the AC-6 flight were loaded into a specially designed cargo aircraft flown under contract to the National Aeronautics and Space Administration.

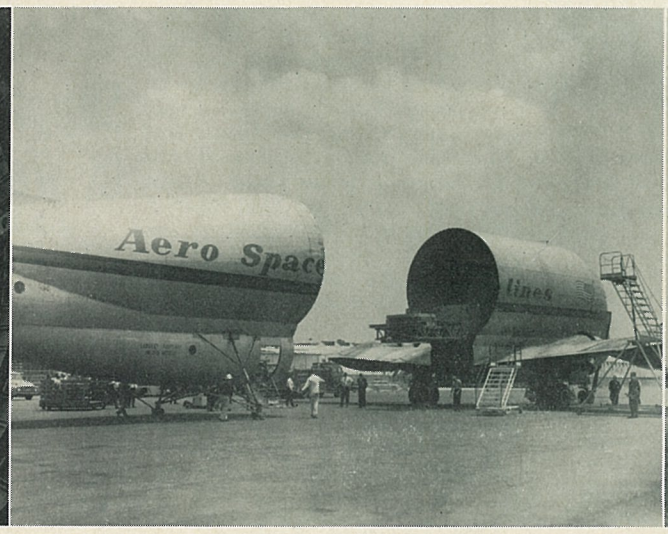
Atlas 115-D, the booster for the July launch, was loaded into an Air Force C-133B aircraft at Miramar Naval Air Station on Kearny Mesa.

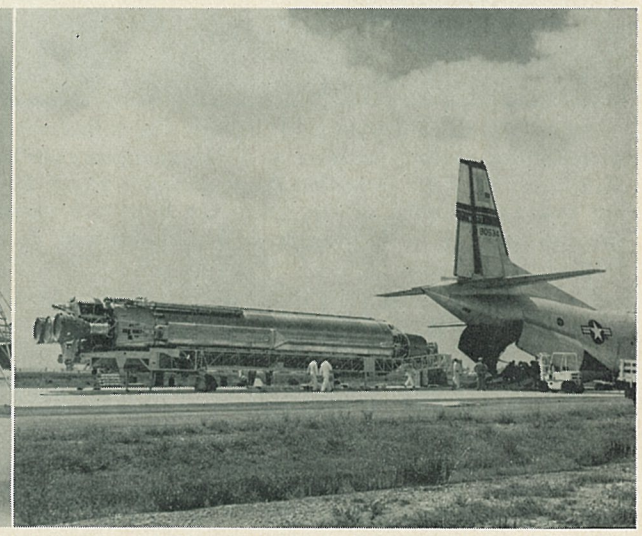
The Centaur vehicle itself is undergoing final checkout at the Kearny Mesa plant. It will be shipped to Cape Kennedy later where, by means of the interstage adapter, it will be placed above the Atlas booster to form a two-stage vehicle.

On its nose will be the model of the Surveyor spacecraft.

The Atlas-Centaur 6 (AC-6) launch is scheduled for July.







CAN YOU BELIEVE IT? — Aero Space Lines cargo plane literally splits in two at Lindbergh Field, San Diego, as Atlas-Centaur adapter section is loaded for flight to Cape Kennedy. About the same time, Atlas booster was being loaded at Miramar NAS aboard an AF C-133B for flight to Cape where it will be used in AC-6 Atlas-Centaur flight slated for July. Photo at left was taken from inside tail section of strange looking cargo plane.



"Take 'em off . . . I'll have to sew up the holes in the pockets again."

TEL-4 Production Task Completed

GD/Convair's in-house production task on the TEL-4 program was completed this month when 20,000 pounds of equipment moved out of the San Diego plant a week ahead of schedule, bound for Merritt Island, Fla.

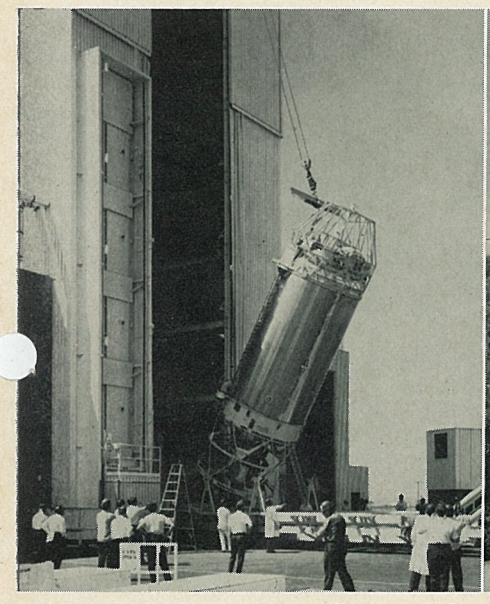
Convair is furnishing the TEL-4 logic and control system for the Merritt Island Central Telemetry Bldg., which will monitor launch operations at the Air Force Eastern Test Range. The contract is from Pan American World Airways, Inc. Assembly and checkout of Convair-furnished equipment has been under way at the Lindbergh Field plant since last October.

In the 10-ton shipment, which left the West Coast May 11, were five major launch control consoles, one remote patch control system (a computer system with an 8,000-word memory drum), a video remote patch switching system, and ancillary equipment.

The two air-cushioned-ride electronics equipment vans transporting the instrumentation provided a smooth week's journey over the 2,700-mile southern route. Specially equipped for transporting delicate instruments, they make certain that cargo is not subjected to shock loads of over half a G. The most critical instrumentation in the Convair shipment had been tested to withstand loads up to 3.5 Gs.

At Merritt Island a Convair crew will integrate the logic and control system with approximately 400 racks of government-furnished electronic equipment. On-site at Florida are 40 electronic technicians who will be responsible for installation and checkout of the complete telemetry system by late fall. In addition, Convair has another 20 office and administration people based there during the program.

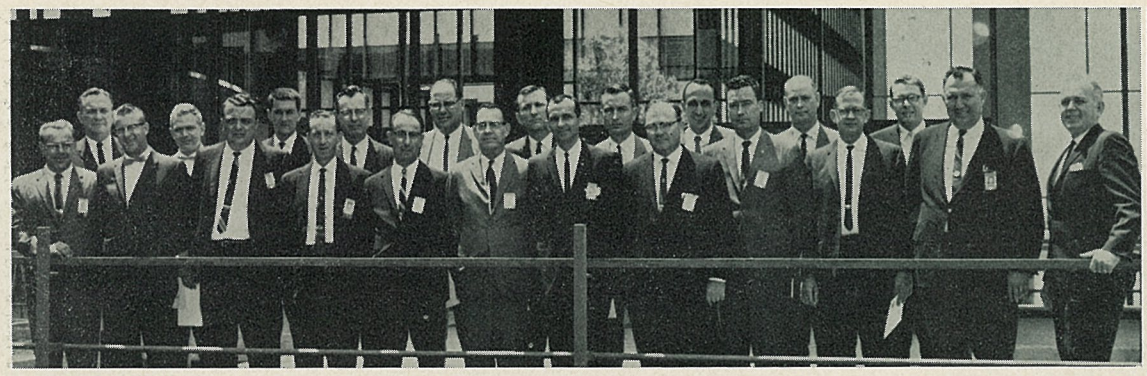
Dave Kahler, TEL-4 program manager, has established headquarters at Merritt Island as on-site manager. He is assisted at the Florida location by R. B. Thompson, deputy program manager-operations, responsible for San Diego systems fabrication and Merritt Island installation; and C. J. Dutton, deputy program manager-administration, in charge of contracts, industrial relations and related functions.



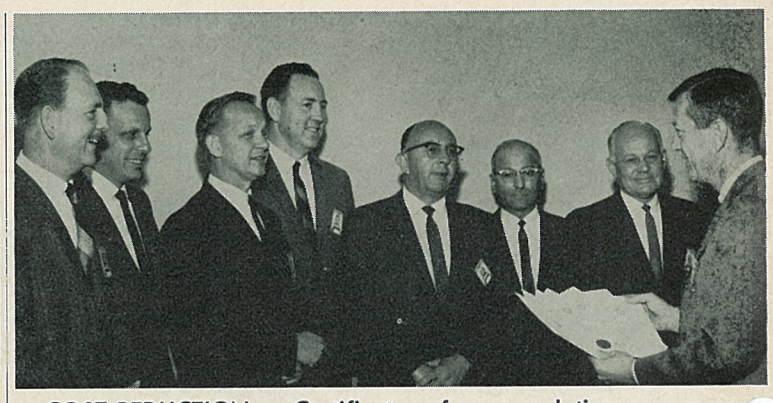




HERE AND THERE — In photo at left, Centaur for AC-7 flight moves into Combined Systems Test Stand at Convair's Kearny Mesa plant for checkout with Atlas and later with Surveyor spacecraft destined for soft landing on moon. CSTS is NASA-owned, Convair-operated facility for dress rehearsals of Atlas-Centaur-Surveyor explorations. Center photo: attending security meeting at GD/Fort Worth are, from left: B. M. Hitt, GD/FW security officer; G. D. Higgins Jr., Corporate director of industrial security; Col. James S. Cogswell, chief, Office of Industrial Security, Contract Administration Services; D. A. Chesshir, GD/FW supervisor of security and investigations; F. E. Chambers, GD/FW director of industrial relations; and Walter T. Skallerup, Deputy Assistant Secretary of Defense-Security/Policy. Photo at right: Convair-assembled TEL-4 instrumentation, 20,000-lb. load, left Lindbergh Field plant this month for Merritt Island, Fla. to be integrated with government-furnished equipment in Central Telemetry Bldg. It was shipped in vans specially designed to minimize road shocks for sensitive equipment.



COST REDUCERS — Convair's reliability control personnel gather for recognition of efforts which saved $930,297 during first quarter of calendar 1965. Phil Harr, far right, director of reliability control, presented certificates of commendation for work in program which is expected to save more than $2 million in 1965.



COST REDUCTION — Certificates of commendation were awarded recently by Erle G. Hill, Convair controller, to seven for significant savings. Hill complimented all for their cost-cutting efforts and said "keep it going." Certificates went to (from left) F. M. Wynkoop, James Greenwald, John Jodka, C. G. Evans, C. E. Welsh, P. T. Brass, and H. E. Gallant.



$453,000 HANDSHAKE — P. I. Harr (far left) Convair's director of reliability control, presents A. J. Woodington certificate of commendation for Cost Reduction Proposal which saved $452,876 during first two months of this year. On hand for award (in background) were G. E. Whaley, D. E. Burgess, and M. J. Sexey, all of Dept. 142.

Reliability Control Personnel Recognized For Cost Reduction

GD/Convair's director of reliability control, P. T. Harr, recently presented value improvement and cost reduction certificates to 23 reliability control personnel.

Projects implemented by them resulted in savings of $930,297 during January, February and March, 1965.

Largest saving was credited to A. J. Woodington, manager of reliability control standards and calibration laboratories. He recommended using decals to identify testing and measuring instruments that were used only for non-data purposes and therefore did not have to be recalibrated on a fixed schedule. This removed 2,751 instruments from calibration schedules and saved $452,876 during January and February.

Eric Callard, administrator of cost reduction and value control programs in the reliability control department, predicts that savings of more than $2 million will be achieved by the end of this year.

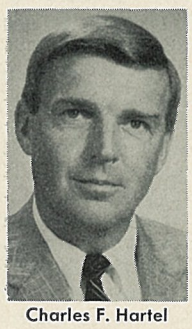
Recognized for contributions to cost reduction and value control program were:

S. Teggart, $1,228 savings; J. R. Frogge, $2,327; G. E. Whaley, $3,527; L. R. Simpson, $3,766; M. J. Sexey, $3,996; J. M. Norman, $4,516; H. C. Keith, $5,652; E. M. Duke Jr., $6,945; W. E. Lux, $8,150; R. E. Dubel, $8,300; F. W. Blanchard, $9,693; D. E. Burgess, $11,618; L. S. Franklin, $19,313; P. M. Benner, $19,765; E. H. Lawton, $32,851; S. Braun, $38,725; J. F. Baebler, $38,830; H. L. Kennedy, $43,677; V. T. Miller, $45,596; W. Olson, $49,238; L. R. Nottebaum, $53,926; L. I. Medlock, $65,780; A. J. Woodington, $452,876.

Hartel Appointed To Data Prod. Post

Charles F. Hartel returns to General Dynamics as manager of program administration at Stromberg-Carlson's Data Products operations in San Diego.

He served as administrative manager for the Charactron project when he left in 1955 to establish his own company. The last 10 years he has headed the Research Management Association, Inc., San Marino, Calif.



Charles F. Hartel

Hartel, a native of Erie, Pa., first joined Convair at San Diego the summer of 1942. He took time out to complete his BA in physics at Pomona College, Claremont, Calif., returning to the division the fall of 1943. After completing military service with the U.S. Navy during World War II, he rejoined Convair in January, 1947.

In his new position, Hartel will report to C. V. Shannon, Data Products general manager. His office will be at the Hancock St. facility.

NEW PHOTO PROCESS DESCRIBED AT MEET

Francis Pall represented GD/Convair at the annual conference of the Society of Photographic Scientists and Engineers at Cleveland, Ohio, last week (May 19) to describe his newly-developed photographic process under the title, "Three-Dimensional Additive Color for Motion Picture and Television."



CONVAIR SLATE — All-Convair group heads San Diego Chapter, Society of Aeronautical Weight Engineers, after recent election. From left are J. E. Mullen, director; D. O. Nevinger, chairman; Jeweline Richardson, vice chairman; T. F. Reed, treasurer; C. E. Kohler Jr., secretary.

Weight Engineers Attend Conference

At least four Convair weight engineers were scheduled to present papers and chair sessions at last week's (May 17-19) 24th Annual Conference of the Society of Aeronautical Weight Engineers in Denver, Colo.

Luis Lucero presented a paper on "Electronic Load Cells, Their Basic Component, Resistance Strain Gages." Harry Trelease talked on "Development of Preliminary Design Synthesis Techniques for Re-entry Vehicles."

D. O. Nevinger's topic was "Introduction To, and Remarks About, the Inertia Panel." He also served as chairman of the Space and Missile — Inertia session. Harold L. Jensen's paper was "Mass, Gravity, Air, and the SHUL." Jensen is a SAWE director and national committee chairman, chairing the weight data exchange committee.

John Fager, advanced systems group engineer, attended the conference by special invitation of the Space and Missile session chairman and presented a paper on "Integrated Non-Re-entry Manned Spacecraft Hull Design."

100 Service Airline Reps Are on Coast

Convair is hosting over 100 service airline representatives and suppliers attending the 1965 Air Transport Association meeting this week (May 25-27) in San Diego.

T. O. Weathers, Trans-Texas Airways assistant vice president-maintenance, is general chairman of the three-day Convair-Martin Maintenance and Engineering Meeting at Vacation Village Hotel.

L. J. Bordelon, Convair manager of commercial customer requirements, will make the Convair presentation this afternoon and all ATA delegates will tour the Lindbergh Field plant later in the day to see the Convair 600 and the Charger prototypes.

$24,000 Spent For Aid in Emergencies

Kearny Mesa Con-Trib-Club (former Astronautics group) assisted 123 employes during the last five months through its Emergency Aid Fund.

A total of $24,006.90 went to help employes faced with financial emergencies, largely due to serious and extended illnesses, from Oct. 1, 1964 to April 15, 1965. A breakdown of expenses listed $4,106 for food; $6,517.15, rent; $3,757.38, hospitals; $6,673.16, medical bills; $2,953.21, miscellaneous.

Ten per cent of all Con-Trib monies received through payroll deductions is diverted to the Emergency Aid Fund for assistance to Convair people.

STUDENTS TOUR S-C FACILITY

San Diego State College student branches of the Association for Computing Machinery and the Institute of Electrical and Electronic Engineers visited the Stromberg-Carlson Corp. facility on Hancock St. early this month. They heard a presentation on S-C's electronic data products, including the S-C 4020, S-C 4400, and S-C 1100.

$815,000 Cost Avoidance Leads Controller Dept. Thrift Effort

Seven GD/Convair employes in the controller's department have been awarded certificates of commendation for significant cost-cutting efforts.

Erle C. Hill presented the awards to:

F. M. Wynkoop—$815,000 cost avoidance savings in subcontract audits.

James Greenwald—$6,666 savings for credit from the customer for gas cylinders, and $60,200 savings for a statistical inventory of tools which saved more than 11,000 hours of effort.

John Jodka—$3,085 savings for a cash conservation project which allows Convair to receive early payment from the customer and thus avoid paying interest on invested money.

C. G. Evans—$217,200 savings for reorganizing the timekeeping department so that mass production methods can be used.

C. E. Welsh—$86,488 savings in a cash conservation project, and for a faster collection cycle from the customer.

P. T. Brass—$4,080 savings for revising a computer tab run so that it can be used by more than one department without extensive research time.

H. E. Gallant—$16,817 savings for a faster way of calculating and collecting earned fees.

Suppliers Join In Workshop

(Continued from Page 1)

031-0; J. E. Riley, Dept. 195-6; Ed Snyder, Dept. 760-1; William Davenport, Dept. 589-1. Project leader, Emerson.

Team #5—RSC Antennas (submitted by Willcutt). W. M. Akimoto, Dept. 549-9; J. F. Crum, USAF; Joel Simmons, Dept. 543-1; W. W. Simpson, Dept. 490-2; James Winters, Dept. 145-1; E. G. Gray, Dept. 403-1.

Team #6—TLM/RSC Antenna Support Assembly (submitted by Webber). D. A. Leever, Dept. 833-1; R. F. Maloney, Dept. 532-2; R. E. Westhefer, Dept. 552-3; T. L. Woodin, Dept. 491-0; James Parr, Dept. 578-4. Project leader, M. N. Delperdang, Dept. 832-1.

Team #7—Telemetry R. F. Housing and Cover (submitted by Willcutt). T. H. Brannagan, Dept. 733-0; R. C. Christopher, Dept. 454-0; S. W. Gill, Dept. 142-1; A. S. Huebner, Dept. 568-1; E. C. Neunswander, Dept. 545-2. Project leader, Delperdang.

Team #8—Conduit Raceway (submitted by Webber). W. A. Carlson, Dept. 410-0; B. A. Ganoe, Dept. 564-1; E. L. Noon, Dept. 584-3; Art Colvin, Dept. 530-0; C. W. Aulgur, Dept. 552-2. Project leader, Delperdang.

Lad of 15 Wins Blues In Riding Club Show

Kenny Eiland, 15, son of Jessie and Ace Eiland, took high-point honors and CRA trophy in the Riding Club's May 15 fun show.

He won the blue ribbon in Western Pleasure event in the 12 to 18 age group and topped Western Horsemanship in the same age group. In the open classes he won the blue ribbon in the Quadrangle Stake and Texas Barrel races. He and his brother, Corby, took second place in the Ride-and-Pickup, in which the rider must run the length of the ring and pick up a passenger without bringing the horse to a stop.

Kenny took third-place in the open class of Bareback Pleasure and Western Pleasure.

V. V. Thomason judged the show which was under direction of Bud Donahoo, show manager.

'Asebring' Scheduled For Sunday on Mesa

Convair Sports Car Club is sponsoring a championship Asebring (all speed events but racing), Satellite Slalom, this coming Sunday (May 30).

A fast and challenging course will be laid out directly opposite the Kearny Mesa CRA area.

Registration will start at 8 a.m. on race day with the field limited to the first 150 cars entered. Entry fees are $3.50 per person, $5 a couple.

For further information contact Bill Kirk at ext. 1521 or 2895, Kearny Mesa plant.

TOUR PLANNED

Members of Convair Management Club plan to tour Prestressed Concrete Co.'s plant today (May 26) at 5:30 p.m. Nadine, ext. 4295 at Kearny Mesa plant, will take late reservations.

SAVE Chapter Elects Several GD Men

General Dynamics personnel have been elected to the top positions in the San Diego Chapter of the Society of American Value Engineers.

Lloyd G. Curtis of Convair's Kearny Mesa plant is president, succeeding H. P. Williams. M. M. Reeder of GD/Electronics is first vice president; Wayne Turner of Convair's Lindbergh Field plant is second vice president; Ralph Glatfelter of the Navy BuWeps office located at Convair is secretary; and Kelly Davis of NAS, North Island, treasurer.

E. D. Heller, Convair manager of cost reduction and value control, installed new SAVE officers at the May 11 meeting.

Brockett Exhibits Win Merit Awards

Six exhibits on which Burton Brockett was art director won awards of merit in San Diego's fifth annual exhibition of advertising and editorial art and design.

Brockett is Convair supervisor of art direction and has been with the Company since 1957.

Ernie Paul Retires; 300 Bid Farewell

Ernie Paul, who has headed golf and many social activities for Stromberg-Carlson and GD/E for nearly 10 years, was feted by San Diego S-C people at his retirement the end of last month.

Some 300 gathered at Community Concourse for a dinner-dance April 30 to bid the popular S-C production engineer farewell. Paul, a native of Perth, Ontario, joined S-C at Rochester in 1952 and moved to San Diego in 1956. At S-C he organized both men's and women's golf clubs.

$100 Checks Awarded To Math Students

Winners in the eighth annual math contest sponsored by GD/Convair were announced at a recent awards banquet.

Winners of $100 cash awards were George Fox of Granite Hills High School, Michael Fredman of Point Loma High School, and Dennis Dowd of University High School.



BEVY OF CHAMPIONS — At top left are all-events champions in 24th annual CRA plant bowling championships at Pacific Recreation, Charles McKerlie and Dot Simmons, with Commissioners Jim Hayman and Mike Brooks. Top center: GD/E Creepers, winning mixed team, from left: George Price, Dot Simmons, Bill Flanagan, Fran and Jack Plumley. Top right: GD/E Production Control, top men's team: Ernie Frost, John Graves, Norm Neault, Charles McKerlie, Hugh Wilson. Lower left: singles winners Jackie Groesbeck and Gordon Branch of AF office. Lower center: Katie Law who rolled 276 game, highest woman's game ever rolled in CRA competition. Lower right: doubles champions, F. W. and Jackie Groesbeck, mixed, and Bill Binder and Buck Pieters, men's.

Sports & Recreation

Orchid Plant Takes Honors

A white cymbidium orchid plant, as yet unnamed, won top honors in a recent San Diego area flower show for its owner, CRA Garden Club Commissioner Everett Henderson.

The plant, with two 3-ft.-long spikes laden with perfect blossoms, was judged best horticultural exhibit in the annual Coronado Flower Show, as well as best in the potted tropical plant section, and best in its class.

Henderson has owned the plant five years, raising it from a bulb. It is a Lillian Stewart seedling and can be given a name of its own only after it has won the required number of points in recognized flower shows.

The outstanding plant was on exhibit all of last weekend in CRA Garden Club's display at the Mission Valley Center Flower Show, and was the feature of Henderson's annual open house May 9 when 375 people viewed his extensive plantings of orchids.



PRIZE ORCHID—Garden Club Commissioner Everett Henderson is almost hidden behind many blossoms of his prize-winning orchid plant, one of more than 700 he nurtures in his Yosemite St. garden.

Wives Will Attend Tea at Clubhouse

All Convair wives are invited to the annual membership tea of Convair Wives' Club which will be held June 9 in the CRA Clubhouse at Kearny Mesa. Club members are urged to bring wives, not already affiliated with the group, as guests and all others are issued an open invitation. Hours of the get-acquainted gathering are from 1 to 3 p.m.

NOVICE TENNIS COURSE TO BEGIN

Novice tennis players at Convair, interested in CRA-sponsored instruction, may start signing now for the next in a series of beginners' courses, said Commissioner Ray Hardy.

Classes start Tuesday (June 15) on CRA courts at the Kearny Mesa recreation area. One-hour lessons will be held at 5:30 p.m. each week for 10 weeks.

Since enrollment is limited to 20 persons, Hardy urges anyone intending to register to sign as soon as possible.

Each person is required to furnish one can of heavy duty balls. Only fee is $1 each to cover trophies for the men's and women's round-robin tournament at completion of instruction.

Register by calling CRA Headquarters, ext. 1111; Hardy, ext. 2549; or Bob Herold, ext. 3392, all at Kearny Mesa plant.

McGregor Heads New Rifle Club Officers

Bob McGregor heads new officers for the CRA Rifle Club. Dick Greer is vice president; Laura Farrelly, secretary-treasurer; and Herold Schnaubelt, chief instructor.

Members will take part in the annual IRC shoot set for June 6 at Gillespie Field Range. Next club meeting will be June 16 in CRA Clubhouse, Kearny Mesa.

One Day Left For Ball Trip

Baseball fans have until noon tomorrow (May 27) to reserve a seat on the CRA-sponsored trip to see the May 31 double-header between the Dodgers and Cincinnati in Los Angeles.

Buses will leave Kearny Mesa plant, in front of the lobby, and Lindbergh Field Bldg. 19 north parking lot at 9:30 a.m. to be in time for start of the game at 1 p.m. Return will be at 8 p.m.

Registration is also open now for a chartered bus trip to the Yankees vs. Angels game June 13. Buses will leave from the same parking lots at the same time as the May 31 date. Deadline is June 10.

Price of $5.50, for either trip, includes transportation and game admission.

Fee must be paid at time of signing at CRA Clubhouse, Kearny Mesa, or Lindbergh Field employe services, Bldg. 16.

Las Vegas Weekend Offered For $25

A weekend in Las Vegas is in the offing for General Dynamics people June 25-27 under CRA sponsorship.

Charge of $25 each will provide round-trip transportation by chartered air-conditioned Greyhound bus, two nights at the Dunes Hotel, and a free bonus from the busline of a "behind the scenes" tour of the Mint Casino on Saturday afternoon and evening. Each passenger will be given $5 in chips, furnished a buffet lunch, dinner in the evening, and admission to the floor show.

The bus will leave 5:30 p.m. Friday from CRA Clubhouse, Kearny Mesa, and stop at San Bernardino at the Smorgasbord House for dinner. Return will be at 1:30 p.m. Sunday afternoon.

Reservations will be taken on a first-come basis at the CRA Clubhouse, Kearny Mesa, with payment to be made on sign-up.

CRA COIN CLUB ENTERS EXHIBIT

CRA Coin Club will enter an exhibit in the annual San Diego County Numismatic Council's Coinerama June 4-6 in El Cortez Convention Center, announced Commissioner Vince Bacon. Spectators are invited.

CRA Calendar

(Convair Recreation Association has 40 activities in operation for Convair, GD/E, Stromberg-Carlson employes. For information call CRA Headquarters, Kearny Mesa, ext. 1111.

Deadline for news for next issue of GD/NEWS is before noon, June 2.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Summer leagues under way. For last-minute entries call Commissioners Mike Brooks, ext. 410, Plant 19, or Forest Erwin, ext. 2884, Kearny Mesa.

CAMERA CLUB — Meeting June 6, 7 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

DELTA DIVERS — Meeting June 9, 7:30 p.m., CRA Clubhouse. Spear-fishing dive June 13, Wind and Sea, La Jolla.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Meeting June 2, 7:30 p.m., Floral Association Bldg., Balboa Park.

GUN CLUB — Troy trapshoot May 30, CRA club shoot June 6, both at Gillespie Field Range.

ICE SKATING — General Dynamics skate nights, Thursdays, 6-7:45 p.m., Mission Valley Ice Arena.

JUNIOR RIFLEERS — Shoot June 5, CRA Gun Club Range.

MODELERS — Open get-together and display of planes June 12, 12:30-4:30, CRA Clubhouse.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Club shoot June 13, 9:15 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting June 2, 7:30 p.m., CRA Clubhouse.

RIDING CLUB—Meeting June 9, 7:30 p.m., CRA Clubhouse.

RIFLE CLUB—IRC shoot June 6. Meeting June 16, 7:30 p.m. CRA Clubhouse.

ROCKHOUNDS—Field trip to California Federation Gem Show May 28-31. Meeting June 10, 7:30 p.m., Gillespie Field Clubhouse.

SCULPTURE — Workshops Monday evenings, 7:30 p.m., CRA Clubhouse.

SPORTS CAR CLUB — Championship Asebring event May 30, 8 a.m., on parking lot across from CRA Clubhouse, Kearny Mesa plant.

TEEN CLUB — Dance June 5, 8-12 p.m., CRA Clubhouse.

TENNIS — Sign now for new novice course beginning June 15. Call CRA Headquarters, ext. 1111.

WIVES CLUB — Membership tea June 9, 1-3 p.m., CRA Clubhouse.

Convair Wife Wins Trapshoot at Reno

Edna Gatterman, wife of Warner (Dept. 780-1), brought home all the prizes for the family with her fine marksmanship at the Golden West Grand, registered ATA trapshoot hosted by Harold's Club in Reno, Nev., May 4-9.

She shot ladies' high overall, 867 out of a possible 1,000, to win the coveted Harold's Club belt buckle—gold engraved on a silver base and centered with a gold coin.

She also topped the Harold's Club ladies' handicap, scoring 176 in the 200-bird shoot. Prize was a Nevada centennial pistol with pearl handle.

Bill Howard Leads Abalone Hunters

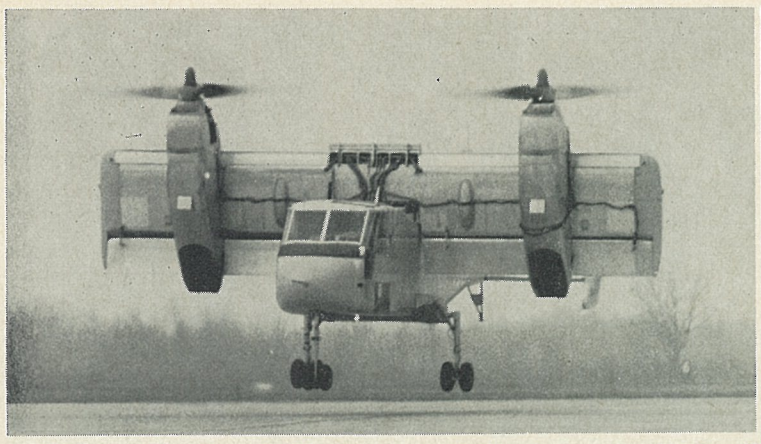
Bill Howard's four abalones, caught during Delta Divers' May 16 dive off La Jolla's Casa Manana, stretched the longest distance laid side by side to make him top abalone hunter of the day.

Larry Blackburn's catch was second and Frank Harvey and John Phair tied for third.

George Jonilonis bagged the largest single abalone which measured out at 8⅞-in.

Four Winners Named In Camera Contest

Winners in the CRA Camera Club's second quarterly contest are Lee Reese in black and white division, and Gerhard Gross, James Mildice, and Kenny Rinker in color slides.



GOING UP—Canadair's "Dynavert," tilt-wing vertical takeoff and landing aircraft, made its first takeoffs and landings successfully at Montreal this month.

Armed Forces Day Crowds See Redeye Air Defense Missile

The shoulder-fired Redeye air defense guided missile, being produced at GD/Pomona for the U.S. Army and Marine Corps, was featured earlier this month in Armed Forces Day exhibits across the nation.

One Redeye exhibit was at Huntsville, Ala., and transferred the following week to the Aberdeen, Md., Proving Grounds.

A second special Redeye exhibit was on display at Ft. Bliss, Texas, and the White Sands Missile Range in New Mexico during Armed Forces Day observances. This Redeye unit was later moved to Washington, D.C., where it was included in a Marine Corps display.

Tartar and Terrier missiles, produced at GD/Pomona for the U.S. Navy, were also displayed at widely scattered Armed Forces Day parades, exhibitions and programs. GD/Pomona furnished a Tartar display for a special exhibition at the Navy Ordnance Laboratory, Corona.

GENERAL ATOMIC MAN IS SPEAKER

Frank S. Glendinning, General Atomic nuclear power applications engineer, was main speaker at a May 18 luncheon meeting of the La Jolla Chapter of Military Order of the World Wars. His topic was "Electric Power from the Atom."

Minus a Paddle

Engineers Survive 80 hr. 'Nightmare'

Two GD/Fort Worth engineers recently found themselves up the creek with but a single paddle. Even worse, they had lost the keel of their boat!

Their luck running thus, R. W. McAnally, B-58 group engineer, and A. B. Riley, senior flight test engineer, called it quits after 40 hours in the annual Texas Water Safari.

The Safari is a 531-mile race against time from San Marcos to Freeport, Texas. First 410-mile stretch is down the swirling Guadalupe and San Marcos Rivers; the second leg is a 110-mile dash across a windswept bay to the finish line.

Six hours from the starting point, the GD/FW team's boat capsized in a shallow rapid.

"We lost a lot of equipment," McAnally said. "Worse still, we lost one of our paddles and the keel of our boat."

Still, the team survived 40 hours—and over 80 miles—of the grind before surrender. During this time, they toted their 200-pound boat (with equipment) over or around seven dams, a dozen log jams, six low-water bridges and various other obstacles.

They drank treated river water and ate cookies, dried soup, and canned meats. They napped once in the boat and twice ashore. They saw a half dozen snakes. And for most of the trip, they managed to keep uncomfortably wet.

Undaunted, it's back to the drawing board for the two nautical-minded aviation engineers.

"We used a modified sunfish-class sailboat of plywood and fiber glass with a four-foot beam," Riley said. "It was about half as long and twice as wide as most entries—and about twice as heavy.

"Next time we'll design our boat long and slender."





ADVENTURERS — At right, A. B. Riley (left) and R. W. McAnally, GD/FW engineers, start 531-mile boat race. At left, they negotiate log jam.



CLAIMS CONTROL — Principal members of recent claims control meeting at GD/Convair were (from left) Richard Evans Jr. of insurance brokerage firm of Flynn, Harrison & Conroy; Holeman Grigsby, and Gordon N. Farquhar, Aetna Life Insurance Co., Edwin C. McManus, General Dynamics director of employe services; J. K. Field, Convair chief of employe services; M. V. Wisdom, Convair director of industrial relations; and R. A. Evans, Convair manager of personnel administration. Discussion involved tighter monitoring of group insurance claims to avoid abuses.

First 880 in Service With Airline Has Flown Eight Million Miles!

It has been just five years this month (May 15) since Convair's first 880 went into service with an airline. The "Delta Queen," first of Delta Air Lines' 880 fleet, was delivered May 11, 1960.

Delta's 16 880s have flown 102 million miles, logged 180,000 hours aloft, carried five million passengers a total of almost four and one-half billion revenue passenger miles and produced $304,000,000 in revenues.

The "Delta Queen" alone has logged almost eight million miles on a total of 9,497 scheduled flights and another 140 training and test hops.

On her delivery flight she set a transcontinental speed record that still stands, covering the 2,266 miles between San Diego and Miami in three hours, 31 minutes and 54 seconds.

More Than Twenty General Dynamics Men Appointed to AIAA Technical Committees

Over a score of General Dynamics men have been named to membership on technical committees of the American Institute of Aeronautics and Astronautics for 1965.

They are: W. H. Bond, Convair, air breathing propulsion; R. J. Patton, Fort Worth, aircraft design; W. A. Marggraf, Convair, atmospheric environment; Robert W. Mawhinney, Convair, atmospheric flight mechanics; Terence J. Gooding, Convair, and Ralph H. Lovberg, General Atomic, electric propulsion; James F. Brady Jr., Convair, entry vehicles; Wallace W. Withee, Convair, flight testing; Hideo Yoshihara, Convair, fluid dynamics and propellants and combustion committees; Chester J. Dunn, Convair, ground systems and equipment; Frank J. Dore, Convair, launch vehicles and missiles; H. Cushman Dow, Convair, law and sociology; G. L. Hansen, Convair, management; Abe Hurlich, Convair, materials; Roy W. Lessard, Convair, reliability and maintainability; A. L. Berlad, Convair, space and atmospheric physics; Earl W. Boteler, Convair, spacecraft; Michael Dublin, Convair, structural dynamics; M. M. Alexander Jr., Fort Worth, and David J. Peery, Convair, structures; J. Haskins, Convair, thermophysics; Herman E. Sheets, Electric Boat, underwater propulsion.

Symposium to Hear Three FW Engineers

Three GD/Fort Worth engineers will participate in an Institute of Electrical & Electronic Engineers' "Automatic Support Systems" symposium June 7-9 in St. Louis.

C. R. Davidson of electronic AGE design group and G. E. Fisher of advanced programming will present a paper on "Cage III —AGE Compiler Routine." G. C. Summer, manager of support equipment design, will chair one of the sessions.



DRY RUN — Convair and NASA personnel gathered at Ames Research Center, Calif., early this month for first flight with experimenters' equipment of NASA's Convair-built 990 which will carry scientists across South Pacific to keep pace with May 30 solar eclipse. From left are Dr. Michel Bader, chief of Ames physics branch who heads 1965 eclipse expedition as manager, with Convair's E. F. Kotnik of 880/990 program office. Center two photos are Loren Pilling and W. B. Harwell, co-pilots, and (at far right) is Ludy Knudsen, flight engineer.

People Mobility

Appointments and Transfers

(Following are recent personnel transfers among General Dynamics divisions, with dates they first joined the Company.)

BIRDSALL J. WOOD (1952) from Convair to cost accounting, Fort Worth; **DOUGLAS J. SCHROEDER** (1961) from Convair to Electronics (San Diego); **WARREN J. BETTENS** (1956) from Convair to design specialist, Pomona; **EARL M. AMUNDSEN** (1961) from Convair to Electronics (San Diego).

MONTE C. BURNS (1949) from Electronics (Rochester) to F-111 manufacturing, Fort Worth; **KASTUTES K. VERSECKES** (1956) from Convair to budget, Fort Worth; **JOHN D. PIRKLE** (1958) from Convair to Stromberg-Carlson (San Diego); **B. K. ROBERT BRADFIELD** (1959) from Convair to industrial security, Fort Worth; **WILLIAM C. BROCATO** (1964) from Pomona to engineering, Convair.

Production S-C 4400 Goes to Customer

First production model of an S-C 4400 document recorder, developed by Stromberg-Carlson Corp., has been delivered to Eastman Kodak in Rochester, N.Y., according to James H. Redman, S-C manager of marketing at the Data Products operations in San Diego.

The S-C 4400, which records 50,000 pages of computer-generated data in an eight-hour shift, was introduced late in 1964. It translates digital codes from a computer into ordinary language with data presented on the face of a special cathode ray tube and recorded automatically by a 16 mm or 35 mm microfilm camera.

The Stromberg-Carlson document recorder was designed for firms such as banks, utilities, insurance companies and other organizations which must store and retrieve a large volume of data. Film produced by the recorder can be stored in rolls or cartridges.

London Times Views Convair 600 As Result of Good Foresight

Participation of GD/Convair and Rolls-Royce in the Convair 600 airplane program was viewed recently in the London Times as "an unusual example of Anglo-American cooperation . . . (that) soon may begin to soar with benefits in both countries."

Recalling the history of the 240, 340, 440 program, the article explained the craft were originally built to permit simple conversion to turbine power, "an act of faith . . . by the aerospace firm which now appears to have been fully justified. The Convair-Liners still are flying and their sturdy airframes still have plenty of good years in them."

Referring to the sales potential, the article pointed out that "even on local hops, sophisticated U.S. travelers are increasingly demanding jet transport. Meanwhile, aging piston engines cost more to repair and replace as the years go by."

The article quoted a "Convair official" as stating that choice of the Rolls-Royce Dart engine involved little or no debate, as it has exactly the horsepower required and was "tailor-made for the job."

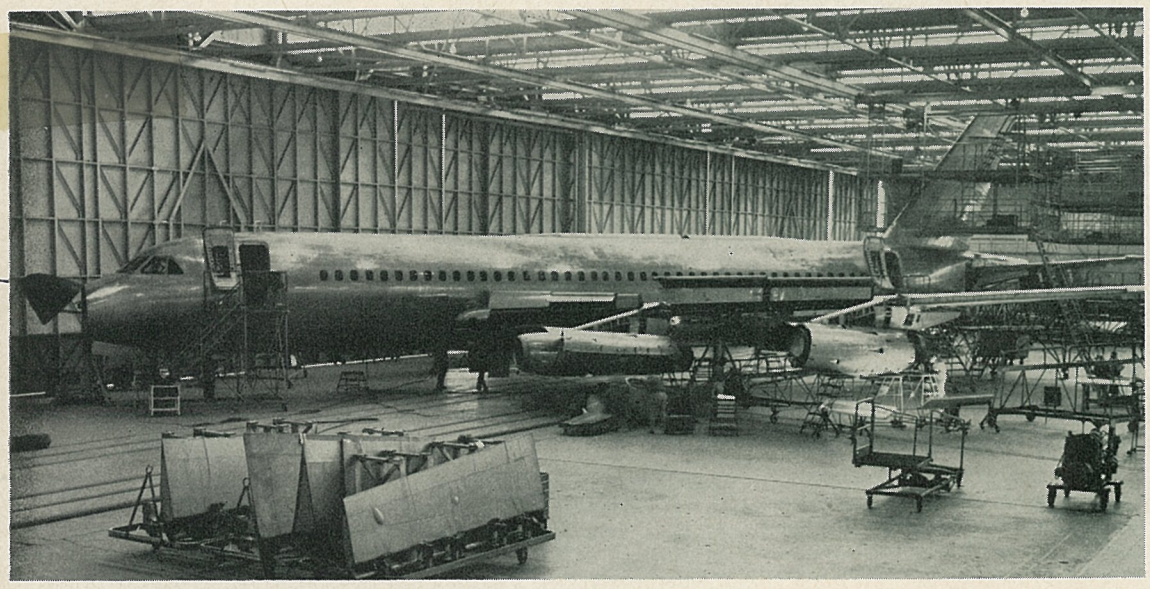
"Clearly the significance of this (Anglo-American connection) extends beyond the money so far generated and whatever may be the longer term financial advantages. Traditionally, British and U.S. aircraft manufacturers tended to deal with each other at arms' length, as deadly rivals. Now they are joining forces—and in this get-together of Rolls-Royce and Convair the initiative came from the American end."

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 12 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, June 9, 1965



"HOME" AGAIN—Federal Aviation Agency's 880-M, built at Convair, is mid-way through 4,000-hour overhaul and inspection at Convair's Lindbergh Field plant. Jet transport, delivered to FAA in 1961, is based at Agency's Oklahoma City, Okla., headquarters for ground school and flight training operations.

Blood Service Plan Offered

Arrangements are complete for all GD/Convair employes to join the Blood Service Program, an insured blood plan operated by the San Diego Blood Bank. Members are entitled to unlimited amounts of blood.

Employes of the Lindbergh Field plant have previously had access to the Blood Service Plan; the plan is new to employes at the Kearny Mesa plant.

Fees are — family membership of one year: Convair employe donates one pint of blood to the Blood Service Plan, or pays fee of $4. Individual membership: Convair employe donates one pint of blood to the Blood Service Plan for a two-year membership, or pays $2 for one-year membership.

Applications for membership will be available at all employe services outlets and the CRA Clubhouse on Kearny Mesa on Thursday, June 24.

Commencing June 24, there will be a bloodmobile at the CRA Clubhouse on Kearny Mesa to accept blood donations from employes who wish to join in this manner. A bloodmobile will visit CRA Clubhouse on Kearny Mesa each Thursday (on and after June 24) until all Convair employes have had an opportunity to join by donating. Thereafter, there will be no more visits to Convair plants.

(Persons now suffering from certain diseases named on the application form are not eligible for membership.)

Subcontractors' Role In New Environment Topic at ASQC Meet

"Role of the Subcontractor in the New Environment" will be outlined by Langley Corp. executives at the June 14 meeting of the San Diego Section of American Society for Quality Control.

The dinner meeting will be held at the Bronze Room and Restaurant in La Mesa with social hour starting at 6 p.m.

Speakers will be Langley Corp.'s president, M. B. Laddon; J. B. Turner, vice president and treasurer; R. L. Laddon, vice president-manufacturing; and H. Dillon, manager of quality control. C. L. Phelps, vice president-sales, will moderate.

Dinner tickets are $2.50, including tax and tip. Reservations are taken by Paul Gelles, Kearny Mesa, ext. 4504; L. C. Stuckey, Lindbergh Field, ext. 646; C. R. Gilbert, Plant 19, ext. 444; J. A. Lederer, GD/Electronics, ext. 1476.

Convair 600's Maiden Flight Smooth, Swift Over So. Cal. Coast

First Convair 600, new Rolls-Royce turboprop engine powered version of the Convair-Liner transport, made a highly successful maiden flight May 19, just one week after its roll-out at the San Diego plant.

Convair chief test pilot John W. Knebel praised the craft's performance after an hour and 30-minute flight off the Southern California coast:

"It couldn't have been better. It looks like we've got the perfect combination of engine and airframe. She retains all the good Convair-Liner handling qualities, but the Dart engines give her completely new performance."

As a joint undertaking by Rolls-Royce Ltd., Derby, England, and Convair division of General Dynamics, the 600 is expected to set new airline standards of operating economy and passenger comfort on regional service routes.

Four airlines—Central Airlines, Fort Worth, Texas; Trans-Texas Airways, Inc., Houston; Caribbean Atlantic Airlines, Inc. (Caribair); and Hawaiian Airlines—already have contracted for a total of 51 Convair 600s.

Members of the 600's first flight crew were Donald P. Germeraad, co-pilot; Robert J. Dunn, instrumentation engineer; Jack L. Fogleman, flight engineer; Eugene E. Whigham, flight test engineer; and Robert L. Runnalls, flight test program director.

Convair 600 program management lauded efforts of all who made first flight possible ahead of schedule.

Among customer airline representatives at San Diego to view the 600's debut last month were: A. A. Bradford, chairman of the board, Central Airlines; M. Lamar Muse, Central's president; P.

(Continued on Page 2)

Club Dinner-Dance Set For Concourse

Plans are nearly complete for the June 19 GD/Convair Management Club dinner-dance at the Community Concourse.

Dave Wright, program chairman for the dress-up event, said the theme for the evening will be "An Evening on the Continent."

Music will be provided by Buster Carlson and his dance band. There will also be surprise entertainment. Door prizes will be vacations for two at a well-known resort.

Tickets are $7 per couple. The buffet menu includes shrimp cocktail and roast beef cut to order.

The event is sponsored by the Management Club board.

Preference Stock Redemption Given Directors' Okay

The Board of Directors of General Dynamics Corporation has authorized the redemption on July 30, 1965, of the 1963, 1964 and 1965 groups of the company's convertible preference stock, aggregating 875,866 shares or approximately 52.7 per cent of the 1,663,134 shares of preference stock outstanding.

Redemption of the three groups of the stock at $62.43 per share, including 23.9 cents of accrued dividends at the redemption date, will require approximately $55 million.

The convertible preference stock was issued upon the merger of Material Service Corporation into the Company in 1959 and carries an annual dividend of 5 per cent of its liquidating value, resulting in a dividend of $2.91 per share of preference stock. It is currently convertible into General Dynamics common stock in

(Continued on Page 6)

Con-Trib Donations Give Students Boost Toward Higher Education

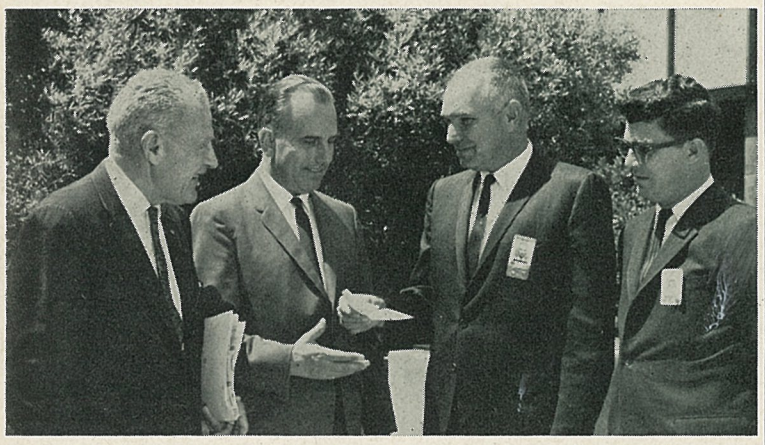
Con-Trib-Clubs at Convair are joining some 30 other businesses and organizations in assisting worthy young people in the San Diego area to continue higher education in local colleges and universities.

Committees of the division's two Con-Trib groups each voted $1,000 this year to the San Diego County Citizens' Scholarship Foundation. Lindbergh Field's Con-Trib-Club gave $1,000 last year, to bring to $3,000 the total Con-Trib funds directed into the scholarship fund. In addition, Convair Management Club has been diverting a portion of its raffle proceeds to the Foundation since it was established late in 1963.

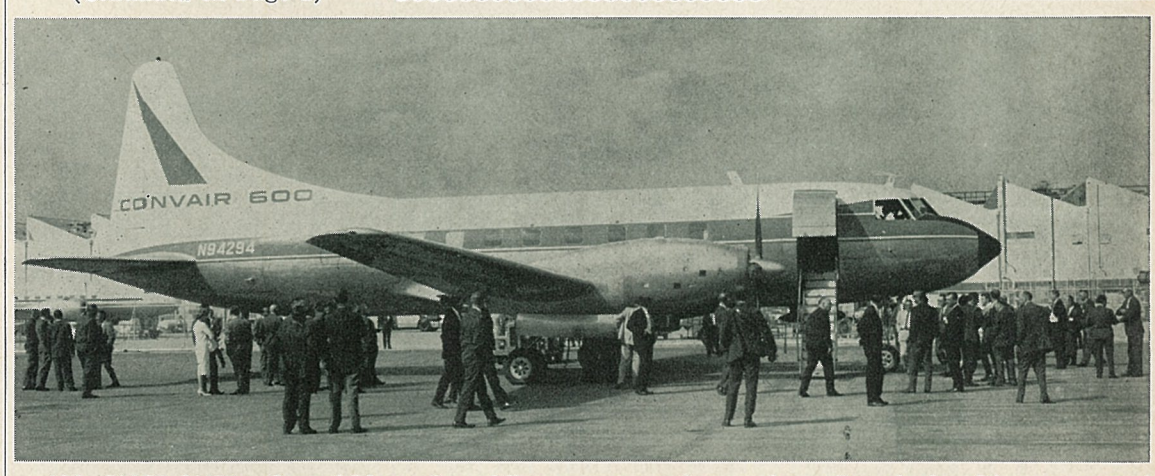
Some 25 young people, who otherwise would be unable to attend college, will be given a boost from the Foundation as they enter school this fall.

Scholarships are awarded on a

(Continued on Page 2)



"DOLLARS FOR SCHOLARS"— Checks totaling $2,000 from two Convair Con-Trib-Clubs are handed J. C. Mayer (second from left), president of San Diego County Citizens' Scholarship Foundation, by J. R. King, Con-Trib Management Club representative. H. W. Rubottom, far left, represents Convair on Foundation's board of directors. Scott Davis, far right, is IAM delegate on Kearny Mesa Con-Trib committee.



600 ONCE-OVER—Over 100 service airline representatives and suppliers, in San Diego to attend Air Transport Association meet, saw Convair 600, updated Convair-Liner with Rolls-Royce Dart turboprop engines, late last month. White and blue-striped 600 made flight demonstration for benefit of spectators.

Convair Safety Record Merits Council Award

GD/Convair has received an Award of Honor from the National Safety Council for piling up 16,125,599 manhours without an accident during a six-month period.

Howard Pyle, Council president, in a congratulatory letter to J. W. Garrison, Convair chief safety engineer, said that the division qualified for the award with its injury-free period from Sept. 11, 1964, to March 21, 1965.

Only one per cent of the country's industrial firms attain the injury-free requirements set by the Council for the award.

1964 Cost Reductions Whopping $77 Million

Cost reduction efforts throughout General Dynamics Corporation in 1964 resulted in savings of $77.3 million, Max Golden, GD vice president, revealed this week.

Of this sum, Government procurement costs were lowered by $54.8 million and costs to GD were reduced by $22.5 million.

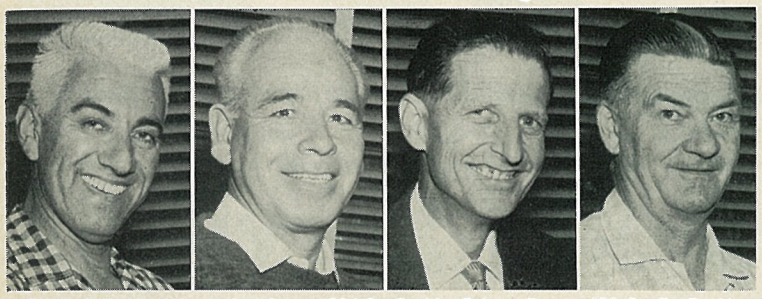
The accomplishment was the result of not only continuation of regular division cost reduction programs but special efforts resulting from President Johnson's appeal to defense contractors for attention to "thrift and frugality . . . to get a dollar's value for every dollar spent . . ." **(GD/NEWS, Jan. 29, 1964).**

Literally thousands of cost reduction proposals and projects contributed to the whole effort and covered an enormous range with all levels from factory and clerical personnel to senior executives represented. Ideas successfully put into effect ranged widely, too, from modification of a tiny bolt to elimination of a large testing facility, from reductions in reporting requirements to

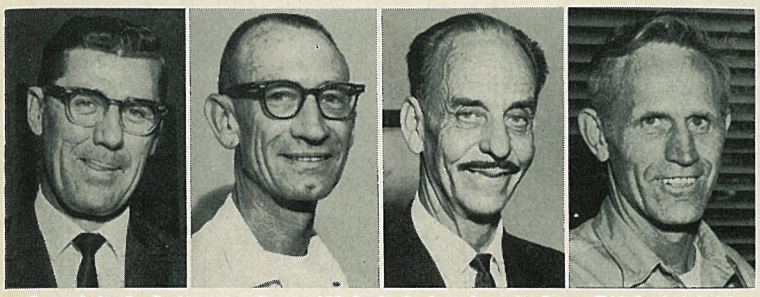
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Log Book Entries

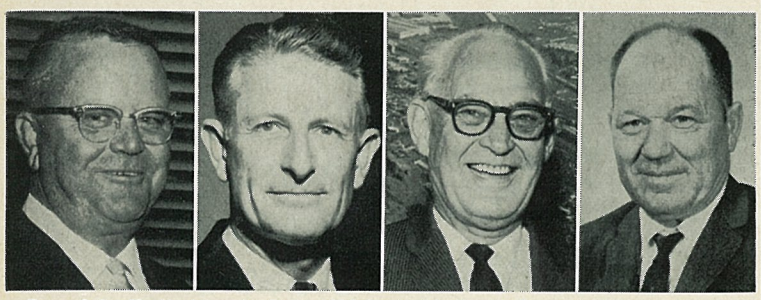
25-Year Men Recognized



From left: R. W. Avila, Dept. 024-0; F. N. Oden, Dept. 401-5; C. E. Rice, Dept. 041-0; V. G. Reid, Dept. 041-0.



From left: R. C. Monson, Dept. 450-0; R. R. Puterbaugh, Dept. 761-0; J. W. Vint, Dept. 250-1; H. L. Slack, Dept. 401-5.



From left: K. M. Vesock, Dept. 401-0; A. N. Ennis, Dept. 147-3; R. C. Fildes, Dept. 821-3; F. M. Baxter, Dept. 002-0.

Service Emblems

CONVAIR

Service emblems due June 1 through June 15.

Thirty-five-year: Dept. 041-0, Leo Nowak.

Twenty-five-year: Dept. 002-0, Joseph Ramirez; Dept. 053-0, J. B. Hurt; Dept. 103-0, Martha C. Newbery; Dept. 151-0, R. H. Brown; Dept. 250-3, J. H. Tarvin; Dept. 401, E. R. Boucher, L. E. Ward; Dept. 454-0, C. L. Thompson; Dept. 503-0, Freeman D'Vincent; Dept. 507-0, W. S. Alcaraz; Dept. 511-1, S. W. Swenson; Dept. 564-0, K. R. Lemley; Dept. 715-0, R. B. Grimes; Dept. 756-0, Russell Morissette; Dept. 759-0, J. R. Morgan; Dept. 780-3, R. L. Woods; Dept. 817-0, S. J. Geller; Dept. 821-0, J. J. Loperena.

Twenty-year: Dept. 140-0, Joy S. Dillow; Dept. 142-4, H. W. Hutchison; Dept. 146-3, Samuel Petcher; Dept. 149-2, Joseph Gann; Dept. 250-5, G. C. Gompertz; Dept. 744-0, R. C. Woker.

Fifteen-year: Dept. 015-0, H. C. Hagen; Dept. 031-0, S. L. Bettis, C. A. Gonzales, J. L. Soares; Dept. 058-0, D. L. Weaver; Dept. 199-0, Roxie S. Smith; Dept. 210-1, R. R. Breese; Dept. 225-0, W. C. Engleman; Dept. 250-3, D. W. Hauenstein; Dept. 251-3, M. L. Wise; Dept. 401-7, Doris F. Spain; Dept. 451-0, J. C. Krugle.

Dept. 504-0, W. E. Covington; Dept. 521-6, Janet C. Vieth; Dept. 533-2, R. M. Zeich; Dept. 591-0, J. R. Picklesimer; Dept. 756-0, I. F. Stiles; Dept. 818, Billie W. Barnett, A. S. Edmonds; Dept. 821-2, W. J. Kelly Jr., V. L. Waitman; Dept. 832-3, C. B. Hewitt Jr.; Dept. 835, R. M. Alexander, J. H. Johnson; Dept. 846-1, Doris M. Parker; Dept. 961-1, L. E. Lightbown.

Ten-year: Dept. 015-0, J. R. Laccubue Sr.; Dept. 041-0, F. A. Wilson; Dept. 102-5, Myrtle A. Stelling; Dept. 142, Gene Candelore, Alma R. Dickens, T. L. Lamoureux Jr.; Dept. 143-1, T. H. Clovis; Dept. 250-1, M. W. Crumm; Dept. 492-0, W. E. Hoyt Jr.; Dept. 510-0, R. G. Milligan; Dept. 522-6, C. D. Syche; Dept. 532-2, D. E. Howard; Dept. 541-0, D. M. Lemons; Dept. 543-1, N. L. Taylor; Dept. 545-2, E. C. Neuenswander.

Dept. 574-2, T. M. Wooster; Dept. 576, E. C. Sims, J. W. Wilson; Dept. 578-1, J. E. Dorsch; Dept. 694-0, L. F. Weikum; Dept. 696-1, T. C. Lieb; Dept. 780-1, Dorothy M. Barnes; Dept. 953-3, L. S. Peterson; Dept. 963-3, W. C. Weese; Dept. 964-4, D. E. Davey; Dept. 966-8, D. L. Johnston; Dept. 967-4, F. W. Kelly; Dept. 971-5, J. L. Carr; Dept. 976-3, D. D. Rabe; Dept. 977-1, R. E. West; Dept. 989-4, T. J. Empert.

ELECTRONICS

Twenty-five-year: Dept. 4073, F. E. Maus.

Ten-year: Dept. 4071, Wilfred Greene.

Rider-Driver

CAR POOL — From Imperial Beach (7:15 a.m.) to Five Points (Washington and Hancock), returning 5 p.m. William H. Knight, home phone, 424-9419.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Kearny Mesa. Two hours, Tuesday, July 6, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, June 29, 8 a.m., Bldg. 14 Auditorium; second shift, Tuesday, June 29, 4:30 p.m., Bldg. 14 Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT PROGRAM—Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 7-8 a.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa. Group 2: June 14, 15, 16, 17; Group 3: June 21, 22, 23, 24; Group 4: June 28, 29, 30, July 1; Group 5: July 12, 13, 14, 15.

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours. Daily, morning classes, 8 a.m.-noon, June 7-18. CRA Clubhouse auditorium, Kearny Mesa.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

PRATT & WHITNEY RL10A3-3 ENGINE—Pratt & Whitney staff. Limited enrollment. Call ext. 1931, Kearny Mesa, for information. Twenty hours: Class I, 7:30 a.m.-11:30 a.m., Room 7, Bldg. 17, June 14-18; Class II, 12:30 p.m.-4:30 p.m., Room 7, Bldg. 17, June 14-18, Kearny Mesa.

EQUIPMENT HISTORY JACKET, CENTAUR—Hal Rubin, ext. 1931, Kearny Mesa. Limited enrollment. One and one-half hours daily: mornings, 8:30-10 a.m.; afternoons, 12:30-2 p.m.; Room 6, Bldg. 17, Kearny Mesa. Daily, June 3-11. Los Angeles Field office; June 18, 7:30 and 9:30 a.m.

AFTER HOURS TRAINING IN-PLANT

BOOLEAN APPLICATIONS TO ENGINEERING—Jim Hanratty, ext. 1931, Kearny Mesa. Twenty hours, Tuesdays, June 15-Aug. 10; 5-7 p.m., Room 2, Bldg. 17, Kearny Mesa.

BOOSTER STRESS ANALYSIS—D. J. Peery. Limited enrollment. Four hours, Tuesdays and Thursdays, 4-5 p.m., June 8-17, Lindbergh Field plant. For information call Wayne Turner, ext. 491, Lindbergh Field.

SECRETARIAL ACCOUNTING (City College) — Jack Hanning. One semester. Each class session 3 hours, Wednesdays, 5:30-8:30 p.m., Kearny Mesa, May 12-Sept. 15. For information and reservations call Laura, ext. 1931, Kearny Mesa.

Retirements

CONVAIR

DENNISTON—Earl G., Dept. 141. Seniority date Sept. 3, 1936, retired Feb. 8.

FOULKE—Asher D., Dept. 422-1. Seniority date Oct. 18, 1955, retired April 30.

GENTRY—John E., Dept. 389-2. Seniority date Aug. 27, 1958, retired March 7.

HARRIS—Willis, Dept. 143-4. Seniority date July 30, 1953, retired April 30.

KOKAL—Louis J., Dept. 115. Seniority date July 12, 1950, retired May 7.

THOMPSON—Alexander, Dept. 576-4. Seniority date June 30, 1950, retired May 14.

TRESCH — George L., Dept. 684-1. Seniority date March 15, 1951, retired April 28.

WEIR—Ralph, Dept. 93-6. Seniority date Sept. 11, 1941, retired May 14.

Invention Disclosures

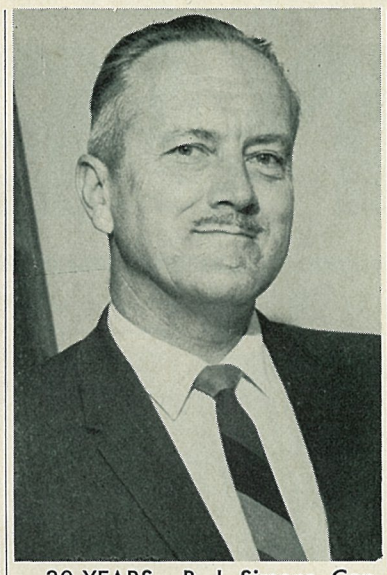
CONVAIR

BOYCE—G. D., Dept. 543-1. Single Sideband Modulator.

DuBRUL—D. W., Dept. 986-2. Combination Fluid Seal and Holding Device.

LEIB—J. E., Dept. 556-0. Improved Accuracy Magnetic Torquer.

RICHARDS—C. M., Dept. 530-0. Permanent Mechanical Tubing System Coupling.



30 YEARS—B. J. Simons, Convair project manager-transports, received emblem marking 30 years with company last month.

Convair 600's Flight Smooth and Swift

(Continued from Page 1)

F. Glover, director of maintenance for Central; L. R. Urquardt, director of purchasing; and R. L. Sicard of FAA, soon to join Central, all from Fort Worth; and Central's counsel, Irby L. Dyer, from Midland, Texas.; R. H. McKaughan Sr., president of Trans-Texas; and R. H. McKaughan Jr., Trans-Texas executive vice president, from Houston.

Rolls-Royce officials included John Waite, sales manager-Aero Division, Rolls-Royce of Canada.

Students Get Boost From Con-Trib Gifts

(Continued from Page 1)

basis of scholarship and financial need. Amounts vary according to the student's actual expenses. A selection committee screens applicants and selects scholarship recipients with the assistance of school officials.

H. W. Rubottom, former Convair chief of educational services, continues to represent the division on the Foundation's board of directors and selection committee.

Awards

CONVAIR

Employe Suggestion Awards approved for the week ending May 21.

Dept. 101-2, C. H. Hoffman and R. G. Krattley, joint award, $10.45 each; Dept. 102-0, Everett Fountain, $100 (partial payment); Dept. 116-0, D. W. Kennedy, $100 (partial payment); Dept. 123-0, F. W. Lee, $22.30.

Dept. 141-0, J. Caldwell and G. A. Hasti, joint award, $5 each; F. J. Hammack and C. E. Rice, joint award, $50 each (partial payment); Dept. 141-3, J. J. Gallant, $80.40; Dept. 143-1, R. E. Hibbs, $10; Dept. 143-3, E. Boggioni, $10; Dept. 143-6, S. R. Kirchmann, $15.70.

Dept. 151-0, D. S. Beight, $10; Dept. 250-1, E. B. Chenault, $10; G. Hartwig, $29.10; Dept. 401-7, M. A. Julio, $47.60; Dept. 410-0, W. A. Carlson, $126.90; Dept. 452-0, G. C. Swaim, $10.

Dept. 571-4, G. Fayer, L. Moore and W. F. Whitmore, joint award, $24.37 each; Dept. 571-6, V. R. Bishop, $17.70; Dept. 576-1, M. F. Kostal, $10; Dept. 576-3, H. E. Crabtree, $10; S. F. Lopez, $10.

Dept. 665-3, H. D. Jeter, $10; Dept. 684-4, P. A. Wright, $10; Dept. 715-0, W. F. Danvers, $46.40; Dept. 733-0, K. Erwin, $10; R. E. Reeves, $10; Dept. 756-0, W. A. Duzyk, $31.70; Dept. 759-0, C. E. Parsons, $132.30; Dept. 759-4, J. F. Mayer, $50.70.

Dept. 780-1, P. C. Pond, $10; F. H. Reid, $10; Dept. 780-2, D. E. Hoegh, $10; Dept. 832-0, Sarah Petty, $14.50; Dept. 833-2, H. M. Yturralde, $10; Dept. 833-3, M. C. Thompson, $51.70; Dept. 953-2, J. L. Beeson, $90.90; Dept. 957-0, C. E. Wheary, $101.10; Dept. 964-2, N. L. Resch, $18.50; Dept. 970-1, N. E. Moyer, $100 (partial payment); Dept. 972-0, E. H. Johnson, $21.40; Dept. 973-1, M. H. Reiser, $10.

Cost Improvement Proposals approved for the same period.

Dept. 124-0, R. B. Montague.
Dept. 141-0, J. R. Benedict.
Dept. 527-0, W. G. Bjornson.

Personals

CONVAIR

We wish to express sincere appreciation to our many friends at General Dynamics for their expressions of sympathy and understanding during the illness and death of our beloved husband and father.
Mrs. Walter D. Covington and family.

Births

CONVAIR

ASPRION—Daughter, Cynthia Dianne, 8 lbs., 9 oz., born May 28 to Mr. and Mrs. Joseph T. Asprion, Dept. 141-4.

BALANAG—Son, Ben Joseph, 8 lbs., 4½ oz., born April 28 to Mr. and Mrs. Ben Dulay Balanag, Dept. 966-4.

Deaths

CONVAIR

GRIFFITHS — Bennie, Dept. 401-0. Died May 20. Survived by wife, Mildred L. Griffiths.

VANDENBERG AFB

HARRIS—W. L., Dept. 576-1. Died May 25. Survived by wife, Maxine L. Harris.

Savings of Near Half Million Expected in Producing Slides

Savings of nearly $457,000 in producing slides and charts have been achieved by S. B. Hodge, GD/Convair manager of industrial graphics, Burton Brockett, supervisor of art direction, and Leonard Parker, graphic designer.

The savings result from a new method of producing slides and charts which reduces the average cost of each from $17.16 to $0.50.

The new method puts camera-ready art through a processing camera which provides a microfilm negative. The negative is processed by a micro-copier which returns an aperture card containing a film positive. The film positive is mounted to become a standard 35 mm slide. If a chart is required, the film positive is projected by an enlarger onto ammonia paper to produce the chart.

Both slides and charts can be produced in five minutes each.

In addition to the savings in money and time, the new method greatly reduces the amount of "do-it-yourself" hand lettered charts.

Saving of $100,000 Forecast From 5-Man Team's Efforts

Savings of over $100,000 may be realized by Convair division through cost reduction and value control efforts of five production men at the Lindbergh Field plant.

Frank Blair, Lindbergh Field plant factory manager, recognized O. C. Banke (Dept. 015), C. R. Maikish (Dept. 492), B. T. McMicken (Dept. 041), Stan Penziul (Dept. 015), and J. S. Bryant (Dept. 031) with certificates of commendation for suggesting new methods which will save $33,344.37 this year and could reduce long-term costs by as much as $113,632.57.

Banke and Maikish submitted a value improvement proposal to rework boring fixtures for drilling holes in Convair 600 engine mount strut fittings, saving nearly half-an-hour per detail.

McMicken initiated a proposal to use Erco riveting equipment on C-141 rib assemblies, eliminating drilling, press riveting, major fixture down-time to save 56 hours per ship's set.

Penziul applied value engineering techniques to determine that air clamps could be adapted to machine shop holding fixtures for fabrication of C-141 clips, reducing time spent in loading and unloading the fixture as well as cutting clamping time. By his method the number of clips fabricated in eight hours is increased from 290 to 1,284.

A cost reduction proposal submitted by Bryant streamlines the procedure of procuring sealants used in spare parts production in Bldg. 5. Now, sealants are delivered directly to the area in which they are mixed instead of to the Bldg. 2 sealant crib, saving two or more round trips a day.

George Loudermilk, cost reduction and value control coordinator for operations departments at both Convair plants, said that all savings are net, after implementation costs have been deducted, and have been audited by the division controller's department.



COST CUTTERS—Frank Blair, Convair factory manager at Lindbergh Field plant, shows five men certificate of commendation they have earned for cost reduction and value control projects. Recognized were Jack Bryant (Dept. 031), Carl Banke (Dept. 015), Charles Maikish (Dept. 492), Ben McMicken (Dept. 041), and Stan Penziul (Dept. 015).

Scientific Advisory Committee Members Briefed on Convair

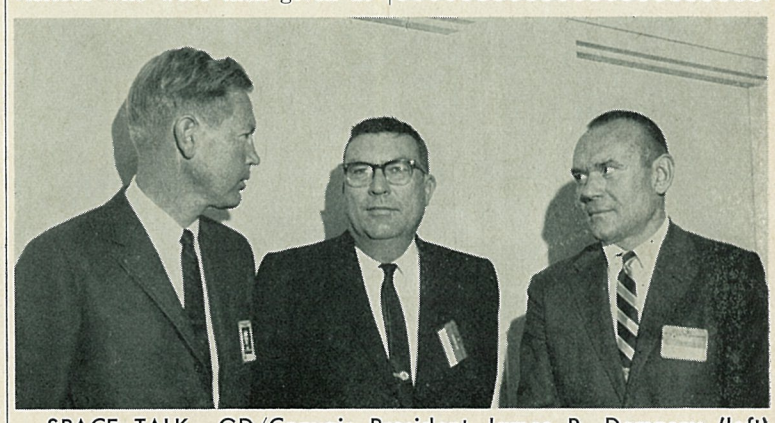
Dr. Nicholas Golovin and Dr. Herbert York, members of President Johnson's scientific advisory committee, were briefed on GD/Convair's space programs and capabilities during a visit to the Kearny Mesa plant late last month.

W. H. Patterson, Convair director of planning, was host.

James R. Dempsey, president of Convair, described the entire range of Convair products to the visitors who were then given detailed information on the improvement programs for the Atlas space launch vehicle and the Centaur space vehicle, reusable boosters, and reusable space launch vehicles.

The committee members also visited General Atomic division.

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.



SPACE TALK—GD/Convair President James R. Dempsey (left) discusses space booster programs with Dr. Herbert York (center) and Dr. Nicholas Golovin. Visitors are members of President Johnson's scientific advisory committee.

Electric Boat Conducts All-Out Recruit Drive

Electric Boat division of Groton, Conn., and Quincy Mass., with the largest backlog of business in its long history, is conducting an all-out recruiting campaign for engineers, draftsmen, designers and supporting personnel.

Veteran recruiters from four other divisions are on loan to assist in efforts at major cities from coast to coast.

An extensive advertising campaign carries this message:

"Draftsmen and Designers—electrical, mechanical, structural and piping.

"Engineers—nuclear, mechanical, electrical/electronic, structural, civil, marine, naval architects, piping, aeronautical, welding, metallurgical, radiological, stress analysts, quality control (engineers and/or analysts)."

EB's backlog includes contracts for construction of 16 nuclear submarines, seven surface ships, plus major overhaul and conversion work on five Polaris submarines.

Recruiters pointed out that even though an individual's experience may have been largely in aerospace, engineering problems encountered at EB are closely parallel.

Assisting the EB recruiting staff are S. H. Imdieke and G. O. Rice of Convair; O. C. Burd of Pomona; J. B. Ellis of Fort Worth; and J. P. O'Reilly of Electronics, Rochester. Major cities where recruiting efforts are concentrated include New York, Albany, Washington, D. C., Cleveland, Chicago, Milwaukee, Denver, New Orleans, Los Angeles, San Francisco, Seattle, and Houston.

Peter Carpenter, technical employment, Electric Boat Division, General Dynamics Corporation, Groton, Conn., is accepting inquiries and referrals.



RECRUITERS—Ace recruiters from four other General Dynamics divisions, called into action to assist Electric Boat in an all-out hiring program, were briefed at Groton on requirements recently. Front row: Tracy Brooks, Corporate Headquarters; George Rice, Convair; O. C. Burd, Pomona; Pat O'Reilly, Electronics. Back row: J. B. Ellis, Fort Worth; Fred Whitehouse, EB; Peter Carpenter, EB; R. E. Sutherland, EB.



AT THE PENTAGON — General Dynamics participation in five "Advanced Planning Briefings for Industry" held at key points across the country was climaxed by selection of four GD cost reduction posters for display in the Pentagon during National Cost Reduction Week. Posters told story of specific cost reduction projects conceived at different GD divisions.

Four Dynamics Cost Cut Posters Selected For Pentagon 'Finals'

General Dynamics cost reduction efforts were prominently displayed at the Pentagon recently in an exhibit which included posters submitted by major defense contractors.

The posters were chosen from those which had been submitted by various divisions for use during "Advanced Planning Briefings for Industry" held at five different cities across the nation. GD participated in all five gatherings, designed to publicize the thrift effort as well as provide a cross-fertilization of ideas and promote cost consciousness.

Four GD posters (each describing a specific cost reduction effort) were chosen for the "finals" at the Pentagon. They were from Convair, Electric Boat and Fort Worth divisions.

"You have reason to be proud of your contributions to this vital program," President Johnson wrote Roger Lewis, president of General Dynamics (**GD/NEWS, May 26, 1965**).

"Such achievements will be a significant factor in determining future source selections . . ."

'64 Cost Reductions Total $77 Million

(Continued from Page 1)

changes in operations procedures.

Meanwhile, Golden reported that renewed efforts are continuing during the current year with cost reduction/profit improvement goals set and divisions reporting quarterly. Results so far were reviewed early this week at a workshop at New York Headquarters attended by division cost reduction and value coordinators who compared experiences and were briefed on Corporate policies. They were greeted by J. Y. McClure, Corporate director, reliability, quality control, value control.

Environment Control

'Cocoons' Protect Atlas Missiles

GD/Convair will store 14 Atlas missiles in what are believed to be the largest portable preservation containers ever erected in the U. S. using an active system to absorb moisture vapor.

Fenton Miller, Convair assistant program manager for space launch vehicles, said the missiles will be stored for the Air Force Ballistic Systems Division.

Missiles will be placed in environmental control structures 16 feet wide, 15 feet high, and 80 feet long at Air Force Plant 19, San Diego.

Developed by Convair's materials handling and packaging engineering group, the tent-like structures consist of a flexible inert plastic material over a framework of slotted steel angles. The plastic, called Driclad, is fitted with plastic zippers for access.

The first of these money-saving devices was erected in Air Force Plant 19 at no cost to Convair through cooperation of Navan Products, Acme Steel, and Oldencott Fasteners. Navan Products supplied the barrier material.

G. M. "Bud" Coole of the packaging engineering group, explained that the environment control method is an application of the experience of the U. S. Navy in mothballing ships.

Moisture inside the long-term preservation container is absorbed by a power unit which circulates atmosphere within the enclosure through chemical, or desiccating, agents. The same power unit also dries the chemicals so they may be reused.

Coole said that if humidity is kept at 30 per cent or lower within an enclosure, corrosion and contamination will not normally become a problem.

The humidity reading in the container now in AF Plant 19 has remained at 22 per cent while humidity outside the structure (but within the plant) varied from 40 to 66 per cent.

Long-term storage of an Atlas missile by this method is relatively low in initial cost, and the recurring labor and materials costs required by methods of open, static storage are reduced.

This same type of portable, flexible container could be used in many sizes for packaging engines, guidance systems, electronic equipment, and other items which could be damaged by corrosion or contamination.

If damaged, the container is repaired much like patching a rubber boat. Because it is virtually waterproof, items may be stored out of doors.

Storing an Atlas missile with this new system minimizes dusting and cleaning and constant surveillance required of other methods. Too, removing and separately packaging subsystems such as vernier engines are power units is no longer required.

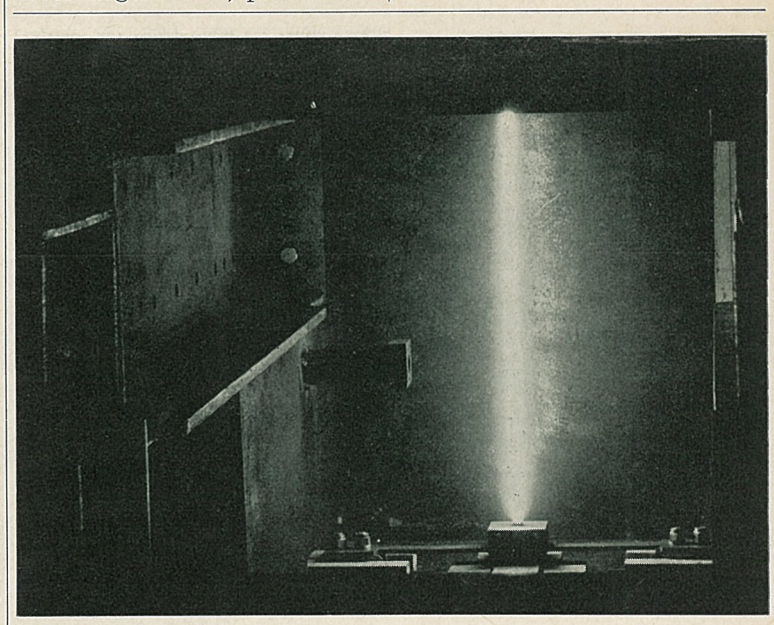
A by-product is the cleanliness level within the enclosure; it is within the limits of the average clean room.

MIDSHIPMAN EARNS CONVAIR AWARD

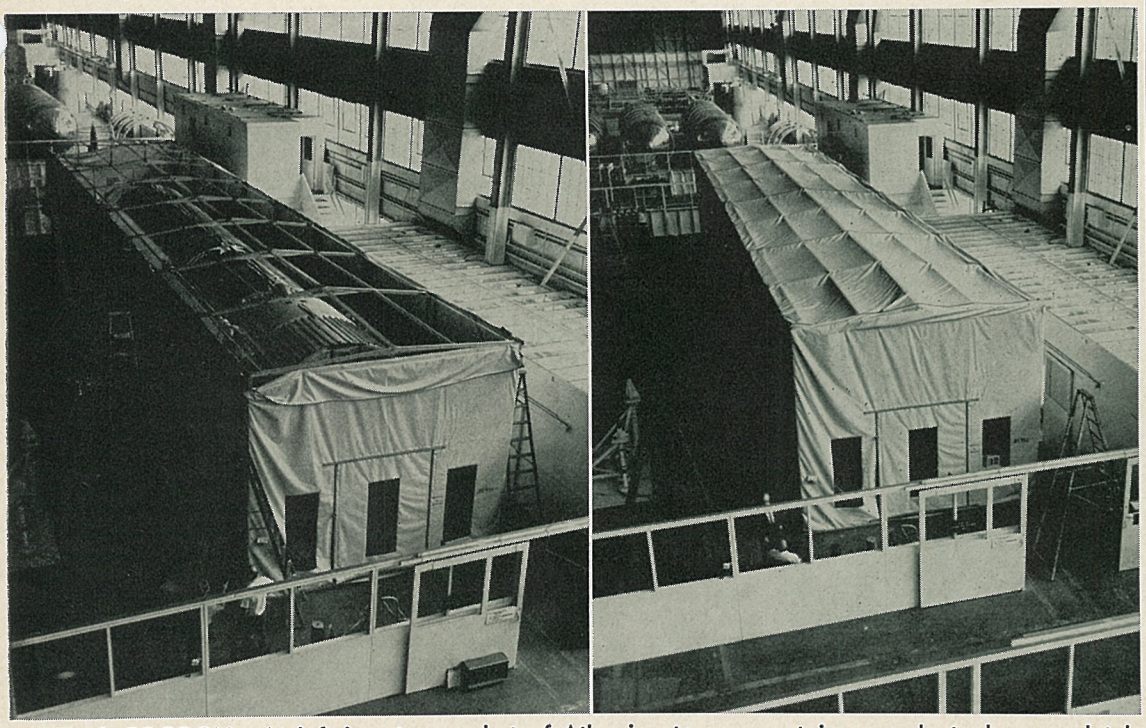
Midshipman Herold James Weiler III received the Convair Award at Joint Navy-Air Force ROTC Awards presentation last month at the University of North Carolina. Weiler was singled out for attaining the highest standing during the aviation phase of last year's summer training with the Naval Reserve Officers Training Corps at the University.

CARLSON TO LEAD NATIONAL SEMINAR

R. E. Carlson, GD/Convair manager of internal audit, will lead a seminar at the 24th International Conference of the Institute of Internal Auditors at St. Louis, Mo., June 13-16.



HOT, HOT, HOT—Glowing graphite tube used as radiant heating element in experimental set-up operates at over 5,000 degrees F. during Convair study of high-temperature heating methods for future structural testing.



ATLAS COCOON—At left is cutaway shot of Atlas in storage container ready to be completely enclosed (photo at right) in huge plastic portable preservation cocoon developed by Convair materials handling and packaging specialists for protective storage of missiles for AF Ballistic Systems Division.

New Techniques Recommended In High-Temperature Study

A look into the future has been the task of GD/Convair laboratory specialists charged with recommending high-temperature heating methods and techniques for atmospheric and space vehicles of the next 15 years—not yet designed.

During the past year Convair laboratory personnel have gathered all available information on the present state of the art and plotted a direction of future requirements as they studied techniques applicable to aerospace structural testing at temperatures above 3,000 degrees F. The feasibility investigation has been accomplished under an Air Force study contract (AF 33 (615)-1509) administered by the AF Flight Dynamics Laboratory of the Research and Technology Division, AF Systems Command, Wright-Patterson AFB, Ohio. The contract technical monitor was Clark E. Beck of the laboratory.

Three basic systems were recommended as the most efficient and economical of the 16 potential methods investigated, reported Ed Schiff, structures lab assistant group engineer. These are: resistance-heated graphite radiant units, cumbustion-heated convective units, and arc-heated convective units.

Investigation took Schiff, as project leader, and D. A. Fletcher, research test engineer, to at least 30 locations throughout the United States to survey existing laboratory heating methods and advanced techniques.

Principal investigators, besides Fletcher of the structures lab, who contributed to the project were R. F. Holmes, W. A. Smith, F. P. Baltakis, D. W. Suttie of Convair thermodynamics lab; E. E. Keller and P. W. Bergstedt, materials laboratory.



BACK TO "SCHOOL"—Wayne Eddington, Convair service engineer (second from right), explains Convair 600 to field service reps during short in-plant course. From left are: John Crenshaw, Tex Ashmore, Dave Weitzman, Henry Bombach, Henry Morgan, Court Zeiss, Eddington, Bob Detwiler.

Field Service Reps Briefed On Convair 600 While In-Plant

Seven Convair customer requirements representatives, who have served all over the world in support of Convair commercial craft, went back to school the first of this month for updating on the Convair 600, propjet version of the Convair-Liner.

Attending an intensive briefing on modification requirements for installation of Rolls-Royce Dart engines and incorporation of vendor-furnished equipment in 240/340/440 transports were John Crenshaw, Tex Ashmore, Dave Weitzman, Henry Bombach, Henry Morgan, Court Zeiss and Bob Detwiler.

The course was arranged by Roy E. Sommers, Convair chief of field service engineering, especially for the benefit of the Convair reps while they were in San Diego to attend the May 25-27 Air Transport Association conference.

All are experienced twin-engine service representatives, with duty stretching back 10 to 15 years. They have been kept constantly informed on all Convair-Liner operations in the years since, even while supporting 880/990 jet airliners more recently, said Sommers. And, now all are charged with field service support of all models of Convair commercial craft in their respective areas.

Crenshaw and Ashmore are based at Miami, Fla., covering the Southeastern United States and South America. Weitzman is assigned to American Airlines at Tulsa, Okla., following his return from Djakarta where he was based with Garuda Indonesian Airways as Convair 990s were phased into service.

Bombach is headquartered at Kansas City, Mo., responsible for the northern Middle West area. Morgan, who has been stationed at New York for many years, covers the New England states. Zeiss is assigned to the Southwestern area and Detwiler is with Federal Aviation Agency's Aeronautical Center, Oklahoma City, Okla. All, except Detwiler, report to L. J. Bordelon, manager of customer requirements.

Don Maxion and John Nowak of field service engineering, and Wayne Eddington, service engineering, taught the course May 28 through June 2.

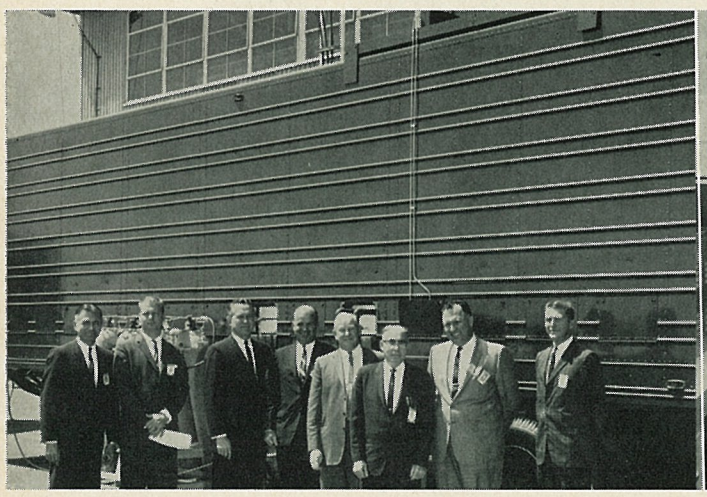
Sycamore Canyon Test Site Gains Calibration Capability

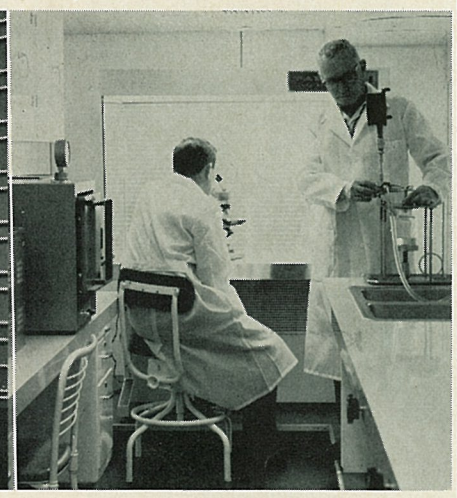
GD/Convair's pressure gauge calibration and cleaning capability at the Sycamore Canyon test site was shown to local quality control representatives of the Air Force, the National Aeronautics and Space Administration, and Convair during ceremonies late last month.

The capability is expected to save $30,000 during the first year of its operation. Gauges at the Sycamore test site were previously sent to Plant 19 for cleaning, then to the Kearny Mesa plant for calibrating. They will now be cleaned and calibrated at the Sycamore site.

W. F. Chana, Sycamore test site manager, and a briefing team of Frank DiPiazza, Clio Gould, and Harry Quick told visitors that most of the equipment used to set up the facility was already available.

After the briefing, visitors inspected the facility where calibration technicians Tom Tucker and Leonard Dendinger demonstrated its use. An equipment item of special interest inside the controlled work area is the laminer flow work bench. Air, filtered down to .3 micron level, moves across the bench at 100 feet per minute. This meets clean-room standards.





CALIBRATION FACILITY—In photo at right, T. L. Tucker and Leonard Dendinger are at stations in GD/Convair's new pressure gauge cleaning and calibrating facility at Sycamore Canyon Test Site. At left are inspection group outside mobile facility (from left) W. F. Chana, site manager; A. E. Buggele, NASA; L. S. Franklin, Dept. 141-0; D. W. Burright, general foreman at Sycamore; G. W. Oetken, AFQA; E. R. Chavez, AFCMD; A. J. Woodington, manager of standards and calibration lab; and G. W. Smith, Centaur program at Convair.

S-C Con-Trib-Club Approves Grants

Stromberg - Carlson's Con-Trib Club approved substantial grants, totaling nearly $5,000, to San Diego charitable organizations and equipment for the San Diego Children's Home at the Con-Trib committee's first business meeting last week.

Funds for summer camperships went to the following local youth groups: $125 each to YMCA, YWCA, Boy Scouts, and Girl Scouts, and $180 to Boys' Clubs of San Diego.

United Community Service received a pledge of $3,250 for half of the current year. An equal amount will be diverted to UCS later in the year.

National Heart Association and American Cancer Association each received $500.

In addition to cash contributions, three heavy duty bed frames were provided for the Children's Home.

Ray Mattas to Head S-C Management Club

Ray Mattas will be introduced as new president of the Stromberg-Carlson Management Club at the June 16 "Sports Night" meeting at the Bronze Room and Restaurant, La Mesa.

Other newly-elected officers are Don Kirkman, first vice president; Joe Cyranek, second vice president; Tom Bankhead, secretary; Roy Gilmore, treasurer; and Jack Weaver, three-year board member. Holdover board members are Charles Licestri and Clay Murdock.

Special guests at the Wednesday meeting will be Tom Denman, Chargers equipment manager, who will show the film, "Charger Game Highlights of 1964"; Bob Lebo, Padres assistant public relations director; and Orville Ball, fish and game specialist of the San Diego Utilities Dept.

Social hour starts at 5:30 p.m., with dinner at 6:30 and program at 7:30.

Fitzgerald Named Club 'Man of Month'

Leroy W. Fitzgerald, general supervisor of office services, Dept. 170-9, was named GD/Convair Management Club Man of the Month for May. Fitzgerald submitted a cost reduction proposal which reduced the "9-level" telephone capability in areas where it was not required for company business; replaced the nation-wide Telpak system with wide-area telephone service circuits; and eliminated operators and equipment for 800 stations in Air Force Plant 19.

Savings on Fitzgerald's suggestion will amount to $337,210 on firm business for the first year of operation.

LUNCH PERIOD TIME REDUCED

Lunch periods for Convair employes at Plant 19 have been reduced from 45 minutes to 30 minutes. First-shift lunch period is 11-11:30 a.m.; second-shift, 7:30-8 p.m.



MERIT AWARD — Fred J. Wright Jr., BUWEPS contract division director at San Diego, receives letter of commendation announcing Quality Salary Increase recognizing high quality performance from Cdr. R. A. Evans, USN, Bureau of Naval Weapons Representative, San Diego.

Two Slow-Pitch Loops Swing Into Action

Two slow-pitch softball leagues in Convair plant play went into action last Wednesday and Thursday nights on the Kearny Mesa field, with double and triple-headers to continue each week.

Entered in American League play are Hi-Lows, Controllers, Floxers, Stromberg-Carlson, Pre-War Personnel.

National League teams are Test Lab, CSTS 79ers, GD/E Purchasing, GD/E Operations, Convair Material, and GASP.

American League games are played at 7 and 8:30 p.m. on Wednesdays; National League games, 6, 7:20, and 8:40 p.m. on Thursdays.

Pre-War boys downed GD/E Purchasing, 9-3, in the 20-game, double elimination pre-season tourney the end of May.

Club Tourney Entries To Compete For Cash

More than $400 in prize money will go to the winners in the Convair Management Club golf tournament to be held June 26 and 27 at the Bonita Valley Country Club.

Players will be placed in flights by handicap and non-handicap players will have a special flight.

Greens fees are $4; reservations close June 15.

Reserve tee times with Helen Cook, ext. 3146, at the Kearny Mesa plant.

H. K. Cheney Assigned To Engineer Post

H. K. Cheney has been assigned responsibility of deputy program manager for engineering and operations for the Little Joe II program at Convair, announced J. B. Hurt, program manager.

Cheney, who had served as deputy program manager in charge of launch operations since inception of the program, assumes engineering duties of D. G. Moody who is now assigned to the LALO project.

C. S. Strand is presently deputy program manager, Little Joe II manufacturing. Both report directly to Hurt.

Salvage Schedule Set

Alternating Saturday schedule for employe sales at Convair salvage yards at Lindberg Field and Kearny Mesa sites for the rest of this month is.

Kearny Mesa Plant—June 12, 26.

Lindbergh Field Plant—June 19.

F. W. SCHWEND TO TEACH DATA PROCESSING COURSE

Frederick D. Schwend, senior data processing programmer at Convair, will instruct a course in "Data Processing and Computer Programming" in the University of California Extension summer program beginning the week of June 28. Enrollment may be made at the Extension office, 1221 Fourth Ave., San Diego.

Convair Entries Win Blues in 'Asebring'

Convair entries took two firsts in class in CRA Sports Car Club's open championship Asebring (all speed events but racing) slalom held at Kearny Mesa Sunday (May 30). A Los Angeles driver won best-run-of-day honors.

Jack Gallant, Convair Dept. 143-2, driving his Lotus Elite won first place in Class F with a time of 53.17 seconds. Judge Penick (Dept. 633-0) was first in Class D, driving an Austin Healey. His time was 50.14 seconds.

A field of 165 entries in 15 classes competed on the half-mile course.

Convair Sports Car Club will meet tonight (June 9) at 7:30 p.m. in the Convair executive dining room, Pacific Hwy.

Tourney Climaxes Course in Tennis

Sixteen Convair men and women wound up a ten-week course in CRA's continuing tennis instruction with round-robin tourney play in singles and doubles the middle of last month.

Dave Harris (Dept. 845-3) took the men's singles with Rick Schultz, son of Dutch Schultz, also Dept. 845-3 runner-up.

Ladies' singles honors went to Edith Quackenbush, daughter of Maynard, Dept. 195-0.

Next beginners' course begins Tuesday (June 15) at the Kearny Mesa recreation area. Classes are scheduled at 5:30 p.m. each Tuesday for 10 weeks. Registration can be made through CRA Headquarters, ext. 1111; Commissioner Ray Hardy, ext. 2549; or Bob Herold, ext. 3392, all Kearny Mesa.

Electronics Team Undefeated so Far

R&D Electronics took their first two games in CRA fast-pitch softball play which opened May 24 on Convair's Kearny Mesa field.

Ten teams are now matched in a three-day-a-week schedule — Monday and Tuesday evenings and Saturday mornings.

R&D Electronics snowed Centaur, 11-1, May 25 and edged by 101 in a 2-1 game June 1. On May 24 Spoilers and Underbrush tied, 6-6, and Technics beat 101, 8-3. Embezzlers bowed to Service Parts, 6-1, the next night. In May 29 play Q.C. Colts blanked the Cosmo Bums, 2-0.

Centaur took their June 1 tilt from Underbrush, 13-7.

Cosmos Bums were pre-season champs, winning their final game from the Spoilers, 4-1.

Hardison Heads Teachers Group

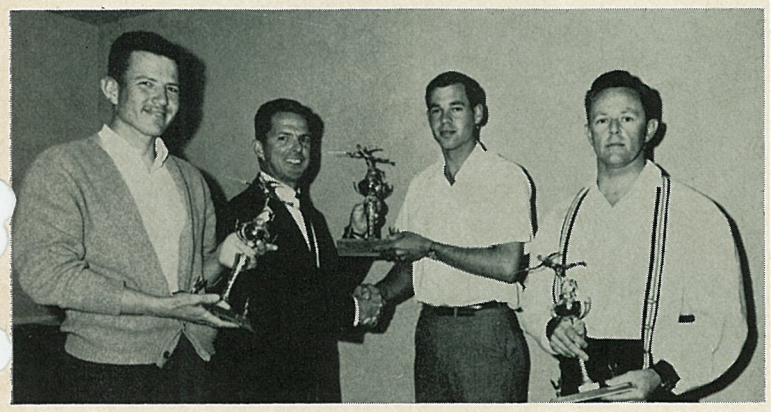
James Hardison of Convair service parts was installed president of the Post High School Adult Teachers Association last month.

Hardison, who regularly conducts tours to Mexico for GD people and teaches Spanish in-plant under CRA sponsorship, instructs adult education classes in Spanish at Mission Bay High School and write's Hardison's Spanish weekly column for the North Shore Sentinel.



JOURNEYMAN — Kenneth P. Eskra, electronics apprentice in Convair's four-year program, receives journeyman's certificate from Arch Wisdom, Stromberg-Carlson manager of engineering-SD.

Sports & Recreation



TOP DIVERS—Jorge Zorrilla (second from left), Delta Divers president, awards trophies to, from left, Rod Johnson, John Phair, and Herb Boynton for taking biggest catches in 1964-65 season.

Astro Five Is Team Winner In Plant Keg Championship

Winners in CRA's May 16 plant bowling championship (former ARA annual tourney), announced by Forest Erwin, commissioner and tournament director, were:

Men's division: The Astro Five, Forest Erwin, captain, Bob Bulick, Swede Swearingen, Bobby Lange, and George Lang. Total score, 3,087.

Mixed division: The Gals and Guys, Edith Spetch, captain, Bert Peterson, Elaine Teagarden, Ed Lou and Tom Woods. Total score, 2,920.

Women's division: The Jet Set, Anita Crouse, captain, Loyce Edwards, Peggy Swanson, Ruth Young and Dory Bucaro. Total score, 2,896.

Men's doubles: Charles E. Quinton and Darrel Stalnaker. Score, 1,310.

Women's doubles: Nancy Acosta and Barbara Shepard. Score, 1,166.

Mixed doubles: Barbara Graves and John Graves Jr. Score, 1,194.

Larry Keith won the men's singles with 648.

Jackie Groesbeck won the women's singles with 711. (Jackie also took women's singles honors in the previous CRA tourney earlier in the month.)

Men's all-events trophy went to Tony Zullo with 1,942.

Women's all-events trophy went to Edith Spetch with 1,916.

Mexican Tour Filling Fast

More General Dynamics "travelers" than ever before have already signed for the annual Mexico summer tour to be conducted this year from Aug. 14 to 29 by Convair's James Hardison.

Altogether, 29 have made firm commitments to make the de luxe trip to Mexico City, Acapulco, and cities in between. However, there is still time and room for others to register, said Hardison, who plans to charter two air-conditioned train cars to take care of the tourists.

Package price is $365 each for round-trip transportation, two meals a day, luxury hotel rooms, admission to attractions.

A capsule course in "tourist" Spanish to help ease communication with neighbors to the South will start June 22 and wind up just before the August departure date.

Weekly classes will be Tuesday evenings, 7-9 p.m., in the Convair executive dining room, Pacific Hwy. Enrollment will be at the first class session.

Special feature of the CRA-sponsored course will be free telephonic recording of lessons for daily practice by phone at any time.

Another highlight will be a slide showing on July 13 at 7 p.m. of an actual tour over the same itinerary as the coming trip.

For tour sign-up or information, contact Hardison at his home phone, 276-5805.

CRA Model Builders Will Show Projects

An open invitation is extended to all Convair model airplane builders to show their current projects at a get-together for modelers June 12 in the CRA Clubhouse auditorium, 12:30 to 4:30 p.m.

The meeting has been scheduled to give fans a chance to look at each other's models, finished or unfinished, and to exchange shop talk on the hobby.

For information, Emil Caluory may be contacted at ext. 3073 or 2229, Kearny Mesa.

'Diver of Year' Awards Go To Three Men

Three expert skin divers of the CRA group received trophies for taking the largest catches during the 1964-65 season which ended in March.

Rod Johnson won honors for the largest fish, a 62-lb. white sea bass. John Phair's trophy was awarded for the largest abalone, and Herb Boynton received trophy for bagging the largest lobster—13 lbs., 15 oz.

Delta Divers' next dive will be a spearfishing session this coming Sunday (June 13) at Windansea, at the foot of Palomar St., La Jolla. Members will meet tonight (June 9), 7:30 p.m., at the CRA Clubhouse, Kearny Mesa, for business and program, including a speaker and slides.

Keg Commissioner Shines in Tourney

Forest Erwin (Dept. 403-1), CRA bowling co-commissioner, hit the jackpot in two sports late last month, rolling the best individual scratch score of any San Diego entry in the State Bowling Tourney in San Francisco on May 23, then shooting his first golf hole-in-one the next Saturday.

Erwin had a 661 scratch series (217-235-209), and 717 with handicap, at the San Francisco tourney.

The ace was shot with a No. 4 wood on the sixth hole of Singing Hills' west course and was witnessed by Armand DuFour and Bob Vukotich.

Flying Club Formed; Low Rates Planned

A CRA Flying Club has been established so that Convair employes and families may participate in aviation activities at reduced rates.

First meeting will be June 15, 7:30 p.m., CRA Clubhouse.

For further information call F. J. Melaniphy, ext. 3219 at the Kearny Mesa plant.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for next issue of GD/NEWS is before noon, June 16.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BRIDGE—Weekly tournaments Fridays, 7:30 p.m., CRA Clubhouse. Master Point night first Friday of each month.

CAMERA CLUB — Meeting June 20, 7 p.m., Photo Arts Bldg., Balboa Park.

CERAMICS — Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COIN CLUB — Election of officers June 16, 7:30 p.m., CRA Clubhouse, Kearny Mesa.

DELTA DIVERS—Meeting tonight (June 9), 7:30 p.m., CRA Clubhouse. Spearfishing dive June 13, Windansea, La Jolla.

EXPLORERS — Meeting and movie June 16, 7:30 p.m., CRA Clubhouse. Weekend outing to Toro Peak area June 19-20.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB—Potluck and meeting, 6:30 and 7:30 p.m., June 16, Gillespie Field Clubhouse.

FLYING CLUB—Organizational meeting June 15, 7:30 p.m., CRA Clubhouse.

GUN CLUB—Open ATA trapshoot June 27, Gillespie Field Range.

ICE SKATING — General Dynamics skate nights, Thursdays, 6-7:45 p.m., Mission Valley Ice Arena.

MODELERS — Open get-together and display of planes June 12, 12:30-4:30 p.m., CRA Clubhouse auditorium.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — IRC pistol shoot June 13, 9 a.m., San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting June 16, 7:30 p.m., Harbor Drive club headquarters.

RIDING CLUB — Meeting tonight (June 9), 7:30 p.m., CRA Clubhouse.

RIFLE CLUB — Meeting June 16, 7:30 p.m., CRA Clubhouse.

ROCKHOUNDS — Meeting tomorrow (June 10), 7:30 p.m., Gillespie Field Clubhouse.

ROLLER SKATING — Free skate night June 21 at Skateland, Front & G Sts. Tickets at CRA Clubhouse and employe services outlets.

SCULPTURE — Workshops Monday evenings, 7:30 p.m., CRA Clubhouse.

SPANISH — CRA beginners' course starts June 22, 7-9 p.m., Convair executive dining room, Pacific Hwy. Enroll at first class session.

SWIMMING—Free swim night June 19, 7-8 p.m., Mission Beach Plunge. Tickets at CRA Clubhouse and employe services outlets.

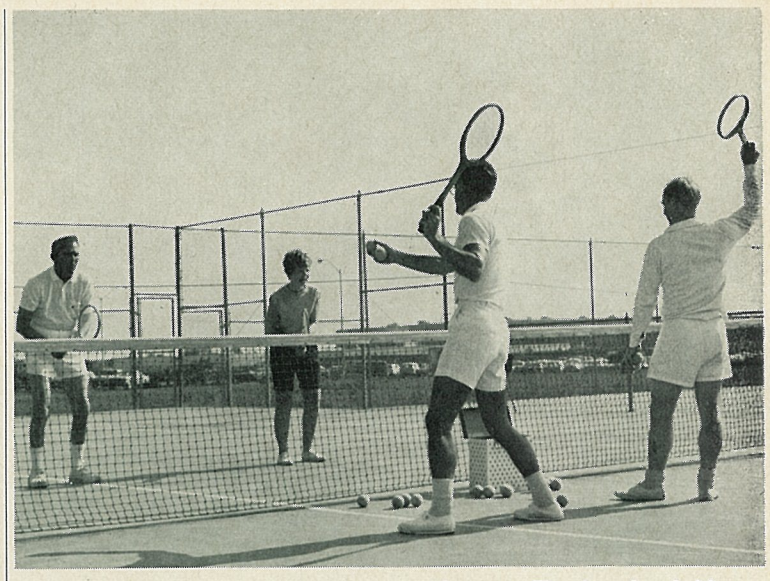
TENNIS — Sign now for new novice course beginning June 15. Register with CRA Headquarters, ext. 1111.

WIVES CLUB — Open membership tea today (June 9), 1-3 p.m., CRA Clubhouse. Luncheon June 16, Catamaran Hotel.

Polly Church of GA Repeat Golf Winner

Polly Church of General Atomic repeated in GD Women's Golf Club competition, stroking low score in the May 8 tourney at Lakeside. Margaret Clark of Convair was runner-up. Barbara Bugbee was third; Mary Ransom, fourth, and Ora Carpenter of Convair, fifth.

Next monthly event for the ladies will be June 12 at River Valley.



READY, SERVE—Dutch Schultz and Betty Fleming (at left) are poised to receive as Tennis Commissioner Ray Hardy and assistant, Bob Herold, at right, serve balls across net during continuing instruction on CRA courts, Kearny Mesa recreation area. New course starts June 15.

Buy Tickets Early To Gain a Discount

All discount tickets offered GD people through CRA arrangements are on a consignment basis and unsold ones must be turned in at least three days before performances.

Purchasers are urged to get their tickets early for preferred locations and to avoid disappointment at the last minute. CRA Headquarters, ext. 1111, Kearny Mesa, has information on reduced-price offers.

Rifle Club Activity To Up Membership

A comprehensive program of CRA Rifle Club activity is promised all interested in joining the Convair group, now conducting a drive for members—either beginners or experienced.

Monthly activity at the CRA Range, Gillespie Field, will consist of qualification shooting to permit all members to qualify for participation in any NRA sanctioned program—50-ft., 50-yd., light rifle, International, and DCM qualifications.

The overall yearly program will be highlighted with special events, such as turkey shoots, semi-annual trophy shoots, luck events, parent-child team events, and club championship match, as well as IRC and NRA matches.

Rifle Club program is intended for adults only since a similar program is offered youngsters of GD families in the Junior Rifleers.

"You need not be an expert to join," said Commissioner Bob Andrews.

For information call Andrews, ext. 777, Kearny Mesa, or Bob McGregor, ext. 495, Lindbergh Field.

Williamson Leader In May Matches

Commissioner Joe Williamson led master class contenders in both May matches fired by CRA Pistol Club.

In .22-cal. Police Course competition May 9 he topped Bill Geopfarth 298-293 and did a repeat performance May 23, 295-293. Byron Clapper was top sharpshooter with 238 May 9.

Jim Mardis topped Police Course expert class May 23 with a 285. Sharpshooter match was won by Bill Ginsky, 260. Jim Halfacre took the Short National with a 280.

Coineers to Elect Officers June 16

Convair Coineers will elect new officers at their June 16 meeting, 7:30 p.m., in the CRA Clubhouse, Kearny Mesa.

Five proof sets will be up for grabs in the drawing and other numismatic items given away as door prizes. All members attending will get a special "give away" coin. There will also be refreshments, displays, and an auction during the evening. Guests are welcome.

Guns Brave Cold, Wind At ATA Shoot

A cold, windy Sunday may have cut the number of entries, but didn't lessen the competition in CRA Gun Club's May 23 registered ATA trapshoot.

Forty-nine entries competed for prizes, both cash and merchandise, in 16-yd., handicap, and doubles.

Don Estes of Lakeside topped Class A in 16-yd. with 89. Class B was won by Herb Langfeldt of National City with 95. Reese Jones of San Diego was high in Class C with 94, and Arthur Salatin, also of San Diego, shot 91 for first in Class D. All winners had their choice of a thermos traveling kit or a gallon thermos jug.

A compulsory purse of $2 an entry in handicap was split 50-30-20 between the three first places: George Skurla of San Diego, 92, $36; Joe Butera, San Diego, 91, $21.60; L. Moore, El Cajon, 90, $14.40.

In addition, Skurla won an ice chest; Butera, a thermos traveling kit; Moore, a gallon thermos jug; and fourth-place Jim Prewitt of Spring Valley, a quart thermos bottle with a score of 88.

Bill Smith of El Cajon won the doubles and a gallon thermos jug with 87.

Next registered ATA event will be June 27 at Gillespie Field Range.

CRA Bridge Winners

May winners in the CRA bridge tournament were:

May 7 — (Monthly Master Point) N-S tie, W. G. Bjornson and S. Mucha, and J. L. Stephenson and C. A. Miller; E-W, Mr. and Mrs. W. B. Evans.

May 14—N-S, Mr. and Mrs. W. B. Evans; E-W, D. A. McLaughlin and J. A. Lestyk.

May 21 — (Special Master Point) N-S, C. K. Goodrich and M. L. Jablow; E-W, Mr. and Mrs. C. A. Miller.

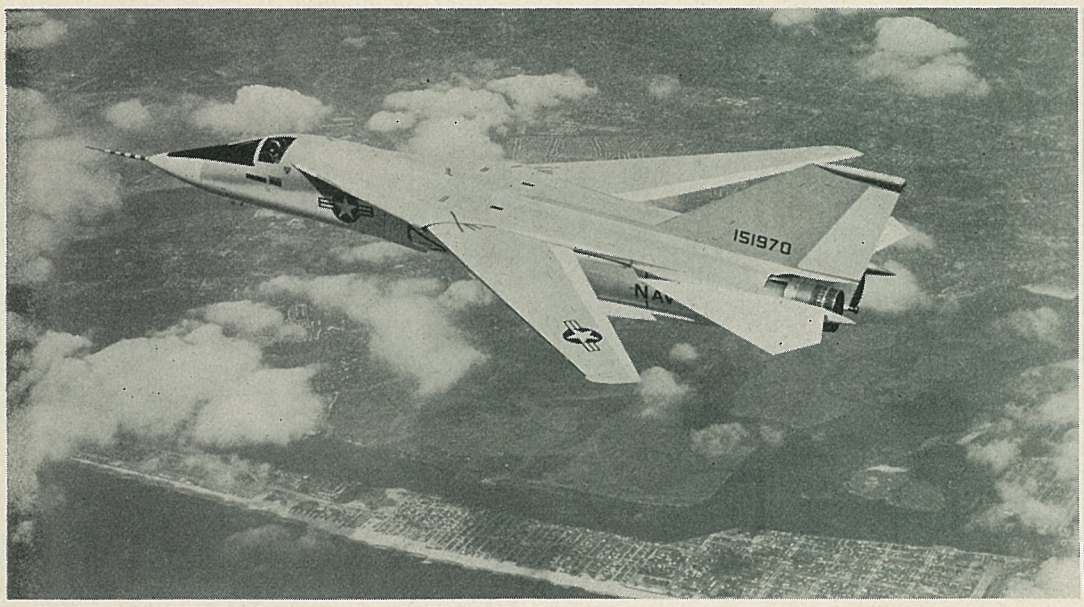
May 28—N-S, Mr. and Mrs. C. A. Miller; E-W, J. L. Stephenson and A. E. Buggele.

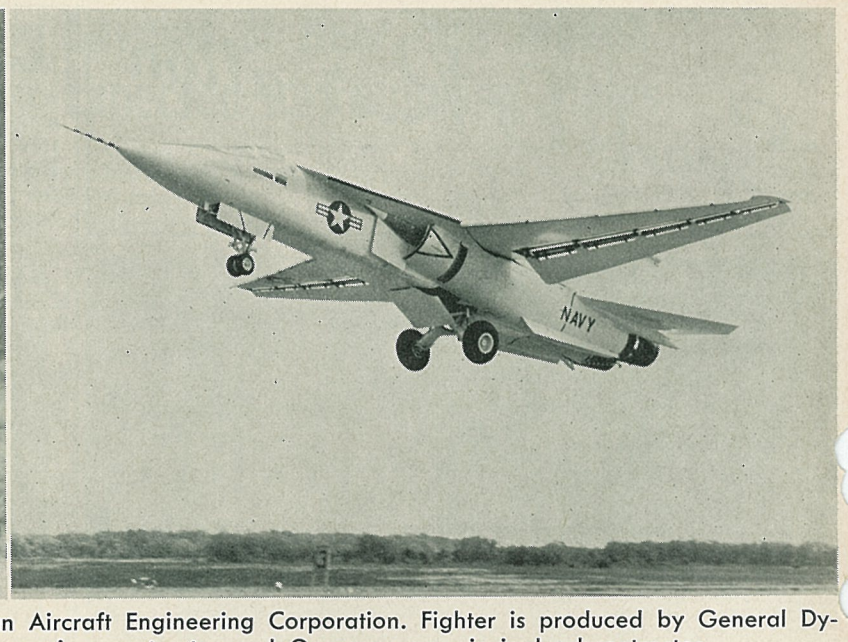
Last Call! Last Call! For Yankee-LA Game

There is just one day left to reserve seats on the CRA-sponsored trip this Sunday (June 13) to the Yankees vs. Los Angeles Angels ball game.

Sale of tickets closes at noon tomorrow (June 10) at both CRA Clubhouse, Kearny Mesa, and Lindbergh Field employe services, Bldg. 16. Price of $5.50 covers round-trip transportation by chartered bus and game admission.

Buses will leave the Kearny Mesa plant, in front of the lobby of Bldg. 2, and Bldg. 19 north parking lot at Lindbergh Field plant at 9:30 a.m.





NEW NAVY WINGS—Navy version of bi-service F-111 fighter made its first flight May 18, ahead of schedule by 13 days, from Calverton, N.Y. facility of Grumman Aircraft Engineering Corporation. Fighter is produced by General Dynamics as prime contractor and Grumman as principal subcontractor.

County Fair Tickets On Sale at Discount

Discount tickets to the San Diego County Fair at Del Mar now are on sale at all employe services outlets at 25 cents off the regular price. Fair dates are June 25 through July 5. Advance sale is for the benefit of the Children's Dental Health Center.

Ice Skaters Time Schedule to Change

GD ice skaters will have a 15-minute change in time of weekly skating sessions Thursday evenings starting June 24, said Commissioner Bud Davies.

At that time private sessions, reserved for GD people at reduced prices, will begin at 6:15 p.m., instead of 6 o'clock, and continue until 7:45 p.m. at the Mission Valley Ice Arena.

Between 40 and 50 skaters of all ages are now turning out. Discount prices are: adults, 80 cents; juniors, 75 cents; children, 50 cents, with an additional skate rental charge of 35 cents, if necessary. Membership fee is only $1 per family a year.

SAVE Chapter to Hear Of Convair Program

Papers prepared by Convair value engineering specialists for the 1965 national meeting of the Society of American Value Engineers will be re-presented at tonight's (June 9) meeting of the San Diego Chapter of SAVE.

George Loudermilk, Warren Ridge, Saul Lepen will cover the division's value engineering training, cost targeting, goal milestones, and procedures.

Dinner meeting will be held at the Campus Chuck Wagon, 6205 El Cajon Blvd. Social hour is at 6 p.m.; dinner at 7; program at 8.

Don Anderson Wins 'Man of the Month'

The GD/Convair Management Club named Don E. Anderson, assistant foreman in Dept. 780-4, as Man of the Month for April.

Anderson's award came as a result of his Cost Improvement Proposal for a new and more standard sequence of recording vibration testing. His proposal will save $9,672 during the first year of its use.

'Fair Lady' Ducats Still Available

Discount tickets to the June 22 performance of "My Fair Lady" are still available to GD theatergoers at Convair, GD/E, and Stromberg-Carlson employe services outlets.

Reserved seats are reduced to $2.65 and $2.25 for the "one night only" showing at Capri Theatre. Deadline for purchase is June 18.

HELLEIS TO CHAIR SAE SECTION

John G. Helleis, Convair Dept. 696-1, was installed as chairman of the 350-member San Diego section of the Society of Automotive Engineers at a dinner dance at the Honkers Restaurant late last month. Helleis is a reliability engineer in the Space Launch Vehicle project.

Dennis Sealey Wins Club Tennis Tourney

Dennis Sealey won the advanced men's singles division in the Management Club's spring tennis tourney.

In the intermediate division, Fred Balata defeated Ray Hardy in the finals. Tony Genco and John Blaine beat Balata and Ron Madonia in intermediate doubles.

A Management Club-CRA challenge ladder has been posted at the CRA courts. For information, call Hardy, ext. 2549, Bob Herold, ext. 3392 (both Kearny Mesa) or CRA Clubhouse, ext. 1111.

Explorers to View Spectacular Movie

CRA Explorers will view a spectacular filming of the stupendous road building task through British Columbia's mountain ranges at the June 16 meeting at 7:30 p.m., CRA Clubhouse.

Jim Moore, who has made several expeditions for National Geographic, will show the 40-min. film, "Opening of Rodger Pass."

Explorers also will firm details for their June 19-20 overnight outing to the Toro Peak area in the Santa Rosa Mountains, approximately 110 miles from San Diego off the Pines to Palms Hwy. on the way to Indio.

Shoot Regulations At Range Changed

Only eight shooters tried their luck at the Memorial Day Troy trapshoot at CRA Gun Club's Gillespie Field Range.

Jim Prewitt of Spring Valley and Bill Smith of El Cajon split the $6 purse for perfect scores in 16-yd.

Revised regulations for Troy shoots to give all marksmen a more even chance at the money will accept ATA handicaps, instead of the previous rule of using 16-yd. scores as handicap averages. Minimum will be 20 yards; maximum, 25. Anyone not having an ATA handicap will shoot at 21 yards.

S-C, GD/E Wives Meet Tomorrow at Tom Lai's

Stromberg-Carlson and GD/Electronics wives and their guests will gather tomorrow (June 10) for their regular monthly luncheon at Tom Lai's Restaurant, at the foot of the G St. pier off Harbor Drive.

Social hour begins at noon with luncheon following at 1 p.m. Cohostesses are Mrs. Don Greenawalt and Mrs. Ray McIntyre.

Rockhounds Slate June 10 Election

CRA Rockhounds will elect officers at the June 10 meeting at Gillespie Field Clubhouse, last business session for the summer months.

WIVES WILL MEET

Wives' Club members will hold their regular monthly luncheon June 16 at Catamaran Hotel, Mission Blvd. Social hour begins at 11 a.m., followed by lunch at noon. Reservations must be made by next Monday (June 14) through Mrs. James Cavanagh, 278-5445, or Mrs. Daniel Nordeck, 273-1140.

More Army Funds Awarded Mauler

The U. S. Army has awarded General Dynamics/Pomona a $3,685,661 modification to the Mauler feasibility validation program contract.

The modification announcement was made May 28 by the Los Angeles Procurement District.

Mauler is a mobile weapon system currently under development at GD/Pomona. The air defense system includes missiles, launcher, radar equipment and computers on a tracked vehicle.

990 Succeeds In Sun Chase

NASA's Convair 990 successfully chased the May 30 solar eclipse across the South Pacific to give scientists from five countries their longest probe into conditions during a total eclipse of the sun.

The 990 flying laboratory, piloted by a Convair crew and carrying 30 scientists, followed the eclipse for 9 minutes and 42 seconds, flying at 587 miles an hour and at an altitude of 39,500 feet.

The jet left Hilo, Hawaii, at 6:53 a.m. and intercepted the path of the eclipse about 1,000 miles east of Samoa. It then raced eastward toward the coast of Peru to keep pace with the eclipse as NASA scientists and space experts from Belgium, the Netherlands, Italy, and Switzerland conducted 13 investigations designed to chart reaction of the earth's atmosphere during total blackout of the sun.

Dry Ice Proposed For Re-entry Cooling

Dry ice, which is carbon dioxide frozen at –190° F., could be used to insulate spacecraft from heating during exit from and reentry into the earth's atmosphere.

GD/Convair aerospace scientist John Clay outlined this space-age application in a presentation to the Society of Aerospace Materials and Processes Engineers May 27 in San Francisco.

The use of dry ice as spacecraft insulation was conceived by scientists at the Langley Research Center. They awarded Convair a contract to study the concept.

Clay said ice would be used as insulation only with spacecraft powered by liquid hydrogen and that this use could represent a major technical advance in the crucial area of spacecraft insulation.

GD/FW's Thompson Renamed Society Vp

R. R. Thompson Jr., GD/Fort Worth senior design weight engineer, was reappointed vice president of the Society of Aeronautical Weight Engineers at the society's national conference in Denver recently.

P. H. Deam, GD/FW Dept. 61-3, is chairman of Texas Chapter of SAWE, and C. Hayes, Dept. 163-2, is a director in the Texas chapter.

People Mobility

Transfers and Appointments

(Dates in parentheses are when individuals joined company.)

LT. GEN. HARVEY T. ALNESS, USAF (ret.), attached to Colorado Springs Office since July, 1964, has been assigned to Paris Office as senior representative, responsible for General Dynamics operations in Europe. He is former Vice Commander-in-Chief, U.S. Air Forces in Europe.

FRANK C. KERR (1959) from Convair to Corporate Headquarters public relations. **VINCENT F. CERNUTO** (1934) from Convair to Fort Worth procurement; **SIDNEY GREENBAUM** (1961) from Convair to quality assurance engineering, Stromberg-Carlson, Rochester; **LEE R. BALLARD** (1958) from Convair to systems technology, Fort Worth; **ALBERT A. KOCH** (1959) from Convair to General Atomic; **HARLEY HEGWOOD** (1944) from Convair to Fort Worth (Edwards AFB).

DAVID M. LEONARD (1959) from Convair to budgets, Fort Worth; **JOHN O. TEARNEN** (1955) from Convair to General Atomic; **WILLIAM C. JOHNSON** (1951) from Convair to Fort Worth (Edwards AFB); **KENNETH R. HODGE** (1962) from GD/Electronics to test equipment repair, Fort Worth.

'Do Good Work' Gospel Spread To Other Divisions, Companies

On more than 30 occasions in the past eight months, GD/Convair has been asked to explain the origin and merits of the "Do Good Work" program. As a result, more than 3,700 persons have learned how the "Do Good Work" advice of Astronaut Gus Grissom was turned into one of the pioneering programs of its kind.

Requests for "Do Good Work" presentations have come from other General Dynamics divisions, the Army, Magnavox, the Navy, Lockheed, the Air Force, Boeing, the National Aeronautics and Space Administration, Northrop, Hawk-Siddley, Collins Radio, and many other companies and trade associations, workshops and seminars.

These audiences are told that the "Do Good Work" program grew from the 4-for-4, 100 per cent reliability of the Air Force Atlas as the Project Mercury manned-spacecraft booster. That during the Mercury program, individual workers and entire organizations were motivated to do their job right the first time, and that Convair decided to retain and build on this experience. That data existed, in the form of quality control records required by Convair's customers, which would serve to both prove the program's value and compare unlike tasks on an equitable basis.

The "Do Good Work" program was put into effect January, 1964. Since then the amount of defective work submitted to inspection has been reduced by as much as 72.4 per cent and has saved an audited total of more than $1½ million.

General Dynamics Directors Authorize Redemption of Preference Stock

(Continued from Page 1)

series, at the rate of 1.957909 shares of common stock for each share of preference stock. The right to convert the shares called for redemption will expire on July 16, 1965.

The preference stock terms provide for a mandatory sinking fund under which the Company is required to redeem such shares at $58.125 per share plus accrued dividends at the rate of $6 million a year in each of the years 1967 through 1973 and at the rate of $12 million a year thereafter until redemption is completed. The present redemption will accelerate the complete retirement of the preference stock.

The after tax savings in the cost of senior money are expected to exceed $1,600,000 per year.

Annual Corporate interest expense has been reduced from $14 million in 1962 to $6 million in 1964. During the same period working capital increased from $128 million to $191 million.

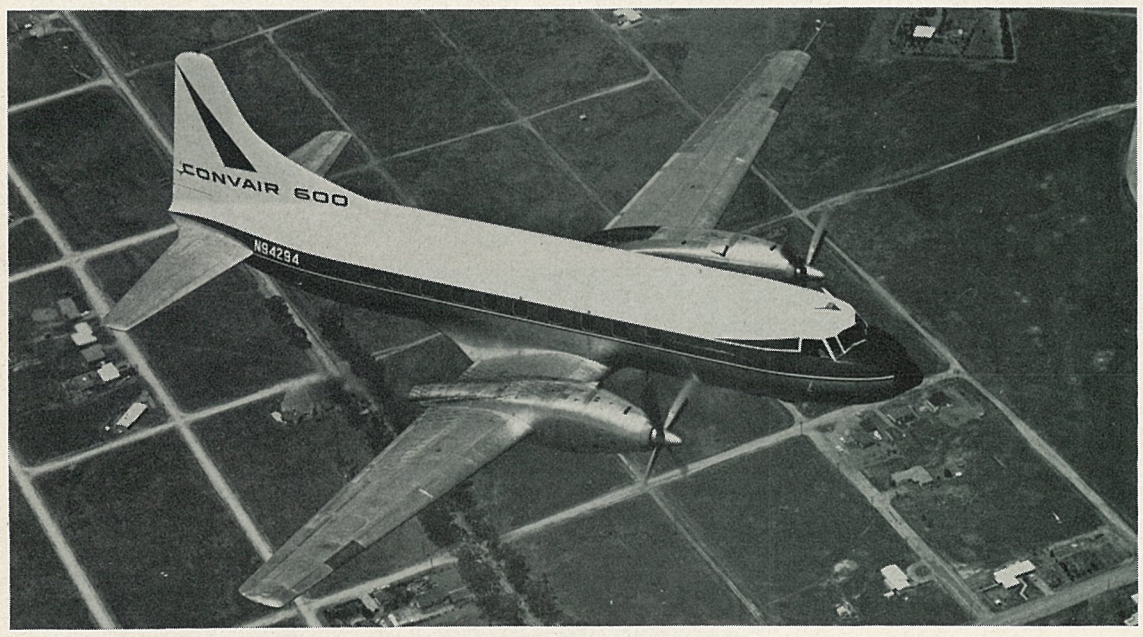
Over the last two years General Dynamics has reduced its 5.2 per cent long-term debt by prepayments of $17.5 million and its 5.5 per cent long-term debt by prepayments of $25 million, in addition to its regular payments of $4 million a year on these loan agreements and other miscellaneous payments. As a result, during 1963 and 1964 long-term debt was reduced from $148,500,000 to $92,800,000. Bank loans that had reached a peak of $187 million in February, 1962 were entirely paid off by the end of 1963. The Company has borrowed only modest amounts on a short-term basis from time to time since the end of 1963 to meet peak requirements for funds.

Funds for the redemption would come from surplus funds that are currently available, occasional short-term bank borrowings, and a $25,000,000 fifteen-year loan from the Prudential Insurance Co. of America which currently holds the major portion of the Corporation's long-term debt. The new Prudential loan will carry a five per cent interest rate and will be repayable in 13 annual installments beginning in 1968, which payments can be trebled at the option of the Company without premium.

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 13 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, June 23, 1965



IN FLIGHT TEST — Convair 600 prototype, converted propjet Convair-Liner powered by Rolls-Royce engines, had over 35 hours in air by last week. It is due to start FAA certification flights in mid-July and go to Edwards AFB to begin performance testing early in August.

In-Plant Modification OKd For 23 Airplanes

Twenty-three customer planes of three airlines will be converted to the turboprop Convair 600 version by GD/Convair, following the signing of a contract early this month with Central Airlines.

Central has authorized in-plant modification at San Diego of eight Convair-Liners in addition to the two 240 prototypes now being modified at the Lindbergh Field plant at San Diego. First prototype is now in flight test, heading toward start of FAA certification next month.

Last month Caribbean Atlantic Airlines, Inc. (Caribair), contracted for Convair to do the modification of nine transports. Hawaiian Airlines, Inc., will have six of its planes converted at the Convair plant besides the 340 prototype now in modification.

First plane to arrive at Convair will be a 340 from Caribair due the first of August. It will be delivered in modified version with an FAA provisional ticket by Oct. 1. Last Caribair delivery will be in mid-June of next year.

Modification of Central's planes will extend from September of this year until June, 1966, and Hawaiian Airlines' from September to next March.

Central will get the second updated 240 prototype in mid-August with a provisional ticket and the first 240 prototype the last of October with full FAA certification. Hawaiian Airlines' 340 prototype will go to that airline in early December with full certification.



BIG MOVE — H. B. Cody of Stromberg-Carlson's Data Products, his wife and nine children wave good-bye from San Diego airport as they enplane for Atlanta, Ga., to set up S-C district sales office for Southern District.

S-C Data Prod. Creates Sales Office Network

Sales efforts of Stromberg-Carlson's Data Products operations in San Diego are being stepped up to reach potential industrial and commercial customers of S-C electronic display and recording equipment with the establishment of seven district sales offices throughout the country.

J. H. Redman, S-C manager of marketing at San Diego, says that the wide and varied applications of S-C high-speed data processing equipment in business fields have expanded the market to several thousand possible customers.

Such S-C systems as the S-C 4400 microfilm recorder, S-C 1100 series interrogator display stations, S-C 1200 digital-to-video conversion equipment are especially adaptable to needs of large organizations which must store

(Continued on Page 2)

System Integration Role Is Assuming Increased Emphasis

The space launch vehicle (SLV) project of GD/Convair has been reorganized to be more responsive to its increasing systems integration responsibilities.

Lloyd E. Munson, manager of systems engineering in the SLV project, explained, "We can meet these responsibilities better now that we have regrouped our people to more effectively employ their systems integration experience in making decisions on SLV programs."

The project was reorganized because Convair is assuming responsibility for integrating systems of the launch vehicle and also systems that make up the overall space vehicle launched by the SLV. As supplier of the launch vehicle, Convair is responsible for integrating propulsion, guidance, and propellant utilization systems, and for the range safety system.

Munson explained that Project FIRE is a good example of the trend. FIRE grew from the requirement to know what happens to a Mercury-shaped spacecraft, returning from the moon, when it slams into the earth's atmosphere on its hot ride home.

To gain this knowledge, Langley Research Center of NASA decided to pack a capsule with instruments, launch it into space, and then drive it back into the earth's atmosphere. For this

(Continued on Page 2)

GD/E's ZD Program Starts at San Diego

Over 90 per cent of all GD/Electronics employes at San Diego have pledged full support for the division's Zero Defects program which went into effect formally the first of this month.

Don Prim, general manager, and Kent Sinclair, ZD committee chairman, explained the program to supervision in a kickoff meeting with seven other briefings held for GD/E employes during the first week.

First Zero Defects awards will be announced in the near future.

W. J. Stanley Named May 'Mr. Industry'

W. J. Stanley, GD/Convair manager of plant engineering, has been named "Mr. Industry" for May by Industrial Maintenance and Plant Operation, a trade journal.

Stanley joined the company in 1954; he was promoted to his present position in 1961.

More Powerful Atlas Ordered

GD/Convair will develop a more powerful Atlas space booster for future Agena and Centaur missions.

The National Aeronautics and Space Administration (NASA) announced last week that the booster stage, designated the SLV-3X, will include changes to the Atlas standard launch vehicle (SLV-3) which, as of last week, has been successful in 34 out of its last 35 flights.

The basic changes are:

Propellant capacity will be increased by some 21,000 pounds by making the top of the vehicle cylindrical rather than a truncated cone. (This will require development of a new interstage adapter). Length of the Atlas will not be changed but the increased tankage will enable Atlas to carry 15,000 pounds more liquid oxygen and nearly 7,000 pounds more RP-1, a kerosene fuel.

Thrust of the three Atlas engines will be increased by use of an improved fuel injector and turbine. Using a modified Saturn H-1 injector will increase the total thrust of the two booster engines from 330,000 pounds to 350,000 pounds. Using an already-developed turbine will increase thrust of the sustainer engine from 57,000 to 65,000 pounds.

C. S. Ames, Convair vice president and program director for SLV, said the first SLV-3X will be delivered for flight 18 months after work begins.

Modifications to SLV-3 will include proven components to gain increased Atlas performance. Use of the uprated Atlas, for instance, will increase the Surveyor mission capability by 600 pounds. Similar payload increases can be expected for Lunar Orbiter, orbiting geophysical and astronomical observatories and the Applications Technology Satellite.

"NASA's plans for use of the SLV-3X on these and other missions," said Ames, "assures continued procurement of the Atlas well beyond the first quarter of fiscal year 1967."

The Air Force Space Systems Division is the procurement agency acting as NASA's agent as in previous NASA procurement of Atlas. NASA's Office Of Space Science and Applications has assigned Atlas-Agena and Atlas-Centaur project responsibility to Lewis Research Center, Cleveland.

Bond Purchasing Led By Electro Dynamic

Corporate-wide percentages of U. S. Bonds buyers by payroll deduction are not yet available, as some divisions have not completed campaigns. However, those which have reported show this participation:

Electro Dynamic, 93.5 per cent; Corporate Headquarters, 80.7 per cent; Convair, 80.3 per cent; Fort Worth, 69 per cent; Pomona, 67 per cent; Stromberg-Carlson (San Diego), 65.2 per cent; General Atomic, 29.3 per cent.

Computer System Saves $1⅓ Million

A cost reduction of $1,356,740 has been credited to C. E. Reid, supervisor of GD/Convair's computing systems and programming liaison group.

Reid worked out a method of coupling two computers together and supporting machines, which enables the machines to "talk" to each other.

The method of coupling the computers together, and of modifying the system of giving the machines work to do, enables one of the computers to direct the work of the other and of all the supporting machines. This method of processing the scientific data workload of the computers more efficiently saves a great deal of lease costs.

There are about a dozen similar "direct-couple" computer installations in the United States; the Convair installation is one of the first.

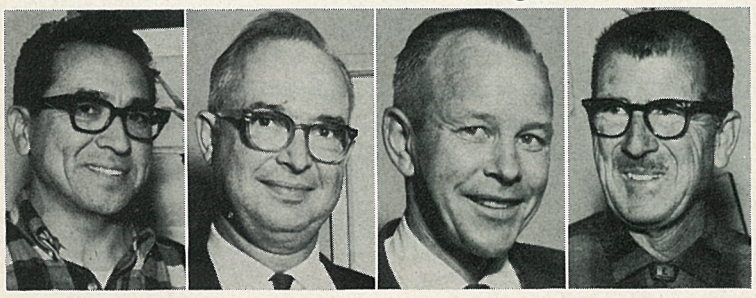
Reid graduated from Texas College in Tyler, Texas, with a BS in math. After a tour of duty as an officer in the U. S. Marine Corps, he joined Convair in 1956.



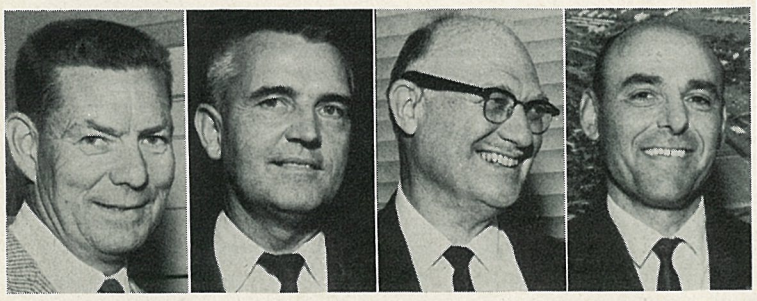
BIG SAVER — Charles E. Reid (left), supervisor in Convair Dept. 595-0, receives Certificate of Commendation from R. C. Sebold, GD/Convair vice president, research, development, and engineering, for devising "direct-couple" computer arrangement which saves Convair more than $1,350,000.

Log Book Entries

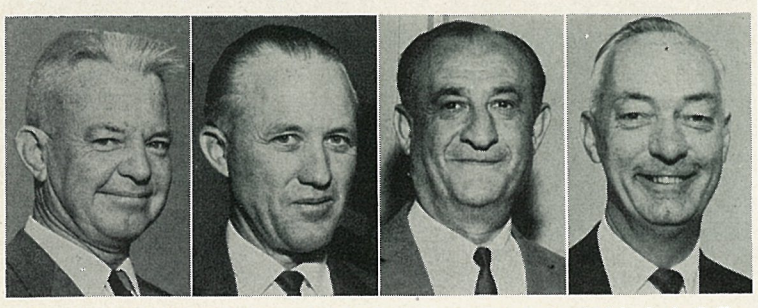
25-Year Men Recognized



From left: Joseph Ramirez, Dept. 002-0; S. W. Swenson, Dept. 511-1; K. R. Lemley, Dept. 564-0; L. E. Ward, Dept. 401-5.



From left: E. R. Boucher, Dept. 401-9; D. E. Knapp Jr., Dept. 834-1; K. E. Ward, Dept. 583-1; J. J. Loperena, Dept. 821-2.



From left: R. H. Brown, Dept. 151-0; C. L. Thompson, Dept. 454-0; S. J. Geller, Dept. 817-0; J. J. Beckman, Dept. 145-1.

Service Emblems

CONVAIR

Service emblems due June 16 through June 30.

Twenty-five-year: Dept. 001-0, T. R. Henrikson; Dept. 031-0, K. R. Abbott, R. R. Atkinson, O. L. Johannsen, J. P. Oakley; Dept. 041-0, Lonis Hale, G. A. Hasti, E. V. Minch; Dept. 053-0, C. S. Brandt; Dept. 451-0, A. L. Bishop Jr.; Dept. 491-0, G. M. Coole; Dept. 509-1, W. F. Butcher; Dept. 581-1, R. F. Nelson; Dept 744-0, F. G. Crosthwaite.

Twenty-year: Dept 101-7, Mary V. Pearce; Dept. 731-0, L. B. Blackner; Dept. 759-0, H. L. Adams; Dept. 972-0, J. R. Hobbs.

Fifteen-year: Dept. 102, C E. Pennick; Dept. 143, Silas Messer Jr., Mary M. Redbird, D. R. Wilson; Dept. 193-3, M. B. Beck; Dept. 250, R. G. Adams, R. J. Hay; Dept. 251-5, J. E. Pugh; Dept. 491-0, R. M. Allen; Dept. 512-1, R. S. Stevens; Dept. 521-6, Helen D. Carlton; Dept. 524-2, Violet T. Woods; Dept. 532-1, R. H. Snow; Dept. 545-3, W. H. Highfill; Dept. 551-1, W. R. Kinney; Dept. 552-0, E. R. Gauthier.

Dept. 578-4, J. H. Keller; Dept. 583-1, W. D. Reeder; Dept. 585-0, R. E. Martin; Dept. 630-0, R. W. Keehn; Dept. 817-0, D. L. Lewis, A. V. Skiles; Dept. 822-0, A. R. Davis, D. E. Sundstrom; Dept. 845-1, H. R. Young; Dept. 953-3, Frank Applegate; Dept. 959-0, Alfred Landry; Dept. 961-8, G. R. Dunn; Dept. 970-1, W. M. Alberty Jr.; Dept. 971-5, L. C. Simek; Dept. 989-2, Eleanor M. Brooks.

Ten-year: Dept. 130, J. W. Garrison, H. M. Graham; Dept. 131-4, Mildred D. McLeod; Dept. 132-1, J. V. Johnston, A. Z. McCourry, John O'Toole; Dept. 141-3, G. E. Stachwick; Dept. 143-0, Ramona D. Joyce; Dept. 193-3, G. W. Megeath; Dept. 250-1, L. B. Moore; Dept. 541-0, M. M. Chazotte Jr.; Dept. 552-1, W. R. Harger; Dept. 553-2, E. A. Hamilton; Dept. 585, E. A. Kaelin, A. H. Ryan.

Dept. 587-2, F. C. Harris; Dept. 588-2, A. U. Schultz; Dept. 596-0, R. W. Lowen; Dept. 636-0, A. E. Berndes Jr., W. J. Giesenschlag; Dept. 644-2, B. D. McClure; Dept. 681, Richard Andre, Calvin Fowler; Dept. 693-0, E. E. Frost; Dept. 780-4, Jean E. Whitfield; Dept. 832-3, Zetha M. Johnson; Dept. 958-7, J. F. Tomaschesk; Dept. 967-5, D. H. Flowers; Dept. 976-3, R. M. Richards.

ELECTRONICS

Twenty-year: Dept. 5078, Kent Sinclair.

STROMBERG-CARLSON

Ten-year: Dept. 8571, W. G. Mummey; Dept. 8572, G. T. Curtis.

Personals

Many thanks to our Convair friends at both Lindbergh Field and Kearny Mesa. Your kindness and concern for our speedy recovery following the accident is sincerely appreciated.

Vera C. and Bob Schaefer (Dept. 515-2).

* * *

We wish to express our appreciation for the expressions of sympathy, gifts, and flowers received after the death of our beloved husband and father, William A. Neal, Dept. 041.

Mrs. William A. Neal,
Bill III and Charles.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Plant 71 (Kearny Mesa) Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Plant 1, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Kearny Mesa. Two hours, Tuesday, July 6, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, June 29, 8 a.m., Bldg. 14 Auditorium; second shift, Tuesday, June 29, 4:30 p.m., Bldg. 14 Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT—Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 7-8 a.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa. Group 1: June 28, 29, 30, July 1; Group 2: July 12, 13, 14, 15; Group 3: July 19, 20, 21, 22.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

CENTAUR CONTROLLED COMPONENTS—Hal Rubin, ext. 1931, Kearny Mesa. One hour; three classes each day, 1-2 p.m., 2:30-3:30 p.m., 4:45-5:45 p.m.; June 21, 22, 23; 12:30-1:30 p.m., 2-3 p.m., 5-6 p.m., June 24; Room 7, Bldg. 17, Kearny Mesa. June 25, 1-2 p.m., 2:15-3:15 p.m., 3:45-4:45 p.m., CSTS facility, Kearny Mesa.

LIQUID HYDROGEN SAFETY—Hal Rubin, ext. 1931, Kearny Mesa. One hour; 3:30-4:30 p.m., June 25, Room 7, Bldg. 17, Kearny Mesa.

AFTER HOURS TRAINING IN-PLANT

BOOSTER STRESS ANALYSIS—D. J. Perry. Limited enrollment. Six hours, Tuesdays and Thursdays, 4-5 p.m., June 8-24, Lindbergh Field. For information call Wayne Turner, ext. 491, Lindbergh Field.

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I)—Dennis Suchecki, ext. 1931, Kearny Mesa. Sixty-five hours, Tuesdays, 5:30-8 p.m.; July 20-Jan. 25, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For advanced registration, call Laura, ext. 1931, Kearny Mesa.

Awards

CONVAIR

Employe Suggestion Awards approved for the week ending June 4.

Dept. 6, A. J. Nybo and D. F. Dijoseph, joint award, $35.75 each; Dept. 15-0, W. J. Bullock and M. H. Ellis, joint award, $50 each; Dept. 015, V. J. Rocco, $59.80; Dept. 140-2, A. L. Sack, $10; Dept. 141, H. W. Arnold, $48.40.

Dept. 143-2, A. R. Townsend, $10; Dept. 250-2, V. H. Marshall, $45.70; Dept. 401-3, R. L. Vincellette, $312.60; Dept. 571, P. A. Saluter, $29; Dept. 571-3, N. M. Robinson, $100.

Dept. 596, C. W. White, $10; Dept. 733, R. Nieto, $58.10; D. J. Rogers, $233.70; H. Staten Jr., $10; Dept. 759, N. B. Byrd and G. D. Lundquist, joint award, $66.25 each; Dept. 763, C. W. Neal, $82.20; Dept. 780, A. G. Parker and P. C. Pond, joint award, $5 each.

Employe Suggestion Awards approved for the week ending June 11.

Dept. 001, B. McMullen, $10.70; Dept. 101, F. S. Pierce, $118; Dept. 102, J. P. Hood, two awards of $72.80 each; Dept. 115, G. C. Archbold, $10; Dept. 119, D. R. Bryson, $25.20.

Dept. 141, J. Caldwell and G. H. Hasti, joint award, $5.55 each; Dept. 143, J. F. Cuerden and R. F. Luth, joint award, $50.15 each; Dept. 191, R. K. LaHaie, $10; Dept. 195, V. H. Porter, $71.50; Dept. 250, R. C. Frajman, $35.60.

Dept. 574, D. L. Berquist, $19.50; Dept. 644, Shirley Boswell, $79.50; C. R. Tucker Jr., $26.90; Dept. 661, W. Nutt, $3,058.60; Dept. 759, F. A. Horton and L. M. Mifflin, joint award, $55.65 each; Dept. 821, J. A. McSparron, $20.40.

Dept. 835, B. Heincy, $10; Dept. 955, G. G. Ragan, $22.30; Dept. 974, A. E. Carter, $10; Dept. 979, L. K. Arnold and J. O. Castle, joint award, $23.65 each.

Rider-Driver

RIDE WANTED—7:30 to 4:30 from Chula Vista, 3rd Ave. between I and J Sts., to Lindbergh Field plant. S. K. Smith, ext. 1066, or home phone, 420-3424.



Leo Nowak, Convair Dept. 041-0, recently received his 35-year pin from James R. Dempsey, Convair president.

Technical Papers

CONVAIR

BOYNTON—F. P. "Composition of the Exhaust Jet of a Model Rocket Engine Operated in a Wind Tunnel," 1965 Spring Meeting of the Western States Section, Combustion Institute, Hollywood, Calif., April 21-23.

BURGIN — G. H. "Recent Improvements in a Compiler Version of MIDAS," (abstract), Joint Western and Rocky Mountain Simulation Council Meeting, U. of Arizona, May 21.

KAYE—S. "Hydrogen-Oxygen Reaction Studies — Experimental Investigation," (abstract), 1965 Spring Meeting of Western States Section, Combustion Institute, Hollywood, Calif., April 21-23.

MIYAJI — M. C. "Liquid Automatic Particle Counters," SAE Committee Meeting, Los Angeles, Calif., May 15.

NOON—E. L. "Sensitivity of Photographic Film to Nuclear Radiation," Sigma Pi Sigma, San Diego State College, April 8.

WILLIAMS—R. M. "Electro Optical Space Navigation Simulation," AIAA, ION National Space Navigation and Communication Meeting, Houston, Texas, April 29-30. "Laser Electro Optical Navigation System," IEEE/National Aerospace Electronic Conference, Dayton, Ohio, May 10-12.

ELECTRONICS—ROCHESTER

NIELSEN—J. L. "Time Sharing Series Inverter," published in proceedings of the 18th Annual Power Sources Conference, May 19-21.

Retirements

CONVAIR

BAIMA—Peter J., Dept. 522-6. Seniority date June 13, 1959, retired May 11.

BOWEN—Stuart F., Dept. 812-0. Seniority date July 2, 1958, retired May 17.

GANTZ—Russell E., Dept. 250-1. Seniority date Feb. 6, 1957, retired May 28.

HENRIKSON—Thor R., Dept. 101. Seniority date April 2, 1940, retired May 21.

JONES—Stuart M., Dept. 311-0. Seniority date Feb. 10, 1960, retired May 17.

PAMPEL—Morris, Dept. 460. Seniority date June 12, 1956, retired May 28.

PERKINS—Forest S., Dept. 250-1. Seniority date Nov. 22, 1939, retired May 28.

PHILLIPS—Clark B., Dept. 989-4. Seniority date March 1, 1956, retired May 22.

RODRICK—Charles G., Dept. 101-5. Seniority date March 11, 1941, retired May 28.

ROESE—Herbert B., Dept. 684-4. Seniority date May 21, 1951, retired May 28.

SOARES—Joseph L., Dept. 131. Seniority date Feb. 2, 1951, retired May 28.

STILWAGEN—Roger H., Dept. 756-0. Seniority date May 4, 1942, retired May 28.

Invention Disclosures

CONVAIR

AGUILERA—E. P., Dept. 532-1. Mechanical Permanent Tubular Joint with Reconnectable Capability for Use in Space Ground Assembly.

ARAIZA—F. J., Dept. 491-0. Manufacture of Epoxy Hollow Spheres by BF3 (Boron Trifluoride) Catalysis.

LELAND—R. E., Dept. 511-1. Tubing Fitting Tool.

STEPHENS—P. B., Dept. 583. Maneuvering Decoy.

WILSON—L. C., Dept. 596-0. Absolute Reflectance Accessory.

Lost & Found

LOST—In Kearny Mesa Plant engineering R&D lab, Bldg. 33, a pair of 4-in. diagonals with red-vinyl covered handles inscribed with name, "Van," and pair of 5-in. scissors with initials GDA on body of scissors. Please return to owner, W. J. Van Horn, ext. 4160, Kearny Mesa.

LOST—At Kearny Mesa Plant, ES/CIP badge attachment with 15-yr. pin and gold key to city. R. J. McPherson, ext. 823, Kearny Mesa.

Births

CONVAIR

BRUNER—Son, Glenn Scott, 6 lbs. 13 oz., born June 14 to Mr. and Mrs. Ronald L. Bruner, Dept. 589-2.

Deaths

CONVAIR

NEAL—William A., Dept. 041-1. Died June 4. Survived by wife, Lucille; two sons, William III and Charles; three grandchildren; mother, Mrs. Mary Neal; and one sister.

* * *

ELECTRONICS

LIVINGSTON—John N., Dept. 6879, field service representative at Cape Kennedy, died June 16. Survived by wife, Mary R. Livingston.

GD/Electronics Son State's 'Man of Year'

John Robert Lacy, son of LaVerne Lacy of GD/Electronics, has been named "Man of the Year" at San Diego State College this year. The honor went to the 22-year-old senior for his interest and participation in school activities.

Draftsman's Idea Leads To ES Check For $3,058

The largest GD/Convair Employe Suggestion award in five years was recently earned by Walter A. Nutt, a draftsman in Dept. 552-1.

Nutt received a check for $3,058 from C. S. Ames, Convair vice president and program director for space launch vehicles. (Although now assigned to Eastern Test Range launch control, Nutt was in the space launch vehicle project when he submitted his suggestion.)

The proposal involved a method of greatly reducing the amount of engineering paperwork required for aerospace ground equipment wiring. Previously, a complete set of engineering paper for each of the space launch vehicle programs was required for the aerospace ground equipment wiring. As a result of Nutt's suggestion, a single "baseline" set of paper was issued which decribed 95 per cent of all the wiring. Kits were issued to describe the remaining 5 per cent. This latter method will save $30,058 net in one year.

Nutt, a native of the state of Washington, joined Convair in 1957. He, his wife Judy, and their three boys and one girl live in El Cajon.



WINDFALL — C. S. Ames (left) Convair vice president and program director for space launch vehicles, discusses $3,058 check earned by W. A. Nutt, draftsman in Dept. 552-1, with employe suggestion which saves $30,586. Award is Convair's largest in five years.

S-C Data Prod. Creates Sales Office Network

(Continued from Page 1)

and have access to a vast amount of data, he pointed out. The S-C 4020 computer recorder is used by scientific organizations, aerospace companies, and range users for its high-speed graphic capabilities and the S-C 3070 electronic printer finds its use in weather communications and air traffic control.

All newly-appointed district sales managers have had extensive experience with Stromberg-Carlson products and have been carefully selected for their special qualifications in the marketing activity. They report directly to H. W. Holmerud, SD manager of district sales.

Most recent office was established the first of this month in Atlanta, Ga., with H. B. Cody as sales manager of the Southern District, covering 11 southern states and Mexico.

Other districts set up within the last couple of months are the East Central District, including New York City, New Jersey, Connecticut, Long Island, under H. G. Cooper located at General Dynamics Corporate Headquarters in New York City; the Northeastern District, comprising Pennsylvania, New York state, Vermont, New Hampshire, Massachusetts, Maine, Rhode Island, Quebec, New Brunswick, with Robert Hayde based at Philadelphia as sales manager.

Southeastern District is in charge of M. H. Rice with his office at Washington, D. C. This area consists of the District of Columbia, Delaware, Maryland, Virginia, West Virginia, North Carolina, Kentucky, Ohio.

Midwestern District is under W. B. Grawe, working out of S-C Corporation's Chicago office. His territory includes the Midwestern states from North and South Dakota east to Michigan, and Ontario.

Northwestern District at present is covered from San Diego by Robert Campbell. A permanent office will be set up in the San Francisco area within the next few months to cover the Western area stretching from Alaska south through British Columbia to Northern California.

Holmerud currently is acting sales manager for the Southwestern District which includes Southern California, Southern Nevada, Arizona, and Hawaii.

System Integration Role Is Assuming Increased Emphasis

(Continued from Page 1)

task, NASA selected Ling-Temco-Vought to supply a velocity package to drive the re-entry vehicle back toward the earth, and Republic Aviation to supply the instrumented re-entry capsule. Convair supplied the Atlas launch vehicle and integrated the systems of the total space vehicle.

As the systems integrator for the overall space vehicle, Convair was also responsible for developing trajectories, supplying guidance equations for the overall mission, determining and meeting range and pad safety requirements, and finding out what aerospace ground equipment and facilities changes were required to integrate vehicles and their shrouds, adaptors, and separation systems into an operable system.

These responsibilities are being met with increasing frequency in the SLV project.

TOM POTTS PLANS WATERCOLOR SHOW

Thomas S. Potts, a buyer in Dept. 420-7 and a painter for 23 years, will show his watercolors July 4 at the Desert Club in Borrego Springs.



REVIEW—Roger Lewis addressed opening session of value control-cost reduction conference and workshop in New York.

Roger Lewis Keynotes Cost Conference in NY

It is important that General Dynamics be the very best in its field, Roger Lewis, president, told a combined value control-cost reduction conference and workshop in New York Headquarters this month.

"The measure of success really comes down to how well each individual employe performs on the job," he added.

Attending were value control panel members and cost reduction coordinators from various divisions and Lewis challenged them to continue their efforts relentlessly.

Lewis stressed very strongly that General Dynamics must deliver high quality, reliable products and that we can not degrade quality but must find ways of cutting costs without reducing our products' dependability.

Also addressing the conference was John Sargent, Corporate vice president-finance, who directed thinking toward the wise use of cash assets. He discussed the "Pot-of-Gold" program (**GD/NEWS, Sept. 23, 1964,** a program aimed at more efficient use of working capital) and stated that jointly Pot-of-Gold and cost reduction programs have made significant contributions to the financial posture of General Dynamics. He indicated that continued success in both areas will be necessary to Corporation growth plans.

James T. MacDonald, Corporate vice president, also spoke, stressing the point that value improvement and cost reduction are not only methods of profit improvement but have become marketing tools which influence source sales in defense business, impress commercial customers, and even affect selection of subcontractors and vendors.

Division representatives were in New York to review program results and goals, and to update cost reduction definitions and guidelines. Sessions were presided over by J. Y. McClure and J. N. Sowers, Corporate Office. Represented were Convair, Electric Boat, Electro Dynamic, Electronics, Fort Worth, General Atomic, Pomona, Stromberg-Carlson Corp.

Other guest speakers included Robert Walk of General Motors; Carlos Fallon of RCA; Col. William Dudley, AF Systems Command; R. N. Babcock and W. E. Magnuson, Convair; C. G. Keach, S. A. Forter, R. A. Wohl, Corporate Office; S. L. Shipstead, J. H. Hill, Electronics; C. W. Doyle, Fort Worth.

Tying Division Security Objectives To Corporate Goals Emphasized

Philosophies, concepts and objectives of General Dynamics security were outlined by Algie A. Hendrix, Corporate vice president-industrial relations, at a Corporate industrial security meeting earlier this month at Pomona.

George D. Higgins Jr., Corporate director of industrial security, was chairman of the three-day conference, June 2-4, attended by 15 industrial security representatives from seven General Dynamics divisions and Corporate Office.

C. F. Horne, president, and T. R. Worthy, director of industrial relations, welcomed the group for the host Pomona division. Horne, in a short talk opening the conference, emphasized that industrial security is not a routine matter but one that requires initiative, imagination and innovation to meet today's challenges.

Hendrix defined the scope of industrial security work as including anything that has to do with protection of the property, people, information and reputation of the Company. He stressed the importance of tying security objectives and goals to the Corporate objectives and goals.

The 1965 Corporate security objectives were presented by Higgins. These include further improvement of the fire protection program with a goal of 25 per cent reduction of fires; Corporate-wide feasibility study of utilizing data processing system for accountability and control of classified material; increased emphasis on timely downgrading and declassification; maximum destruction of classified matter no longer required; feasibility study of increased utilization of electronic protective and control devices; preparation and issuance of a revised security indoctrination booklet for all employes; revision of Corporate and division security manuals.

Managers of industrial security at each of the divisions reported on efforts under way at the division level to accomplish 1965 security objectives and to meet cost reduction goals.

Details of GD/Pomona's new accountability system which includes automatic time-phased downgrading and declassification were presented by Supervisor G. J. DeBell and J. R. Cola of GD/Pomona systems development. This system was recommended for study by the other divisions.

I. B. Hale, manager of industrial security at Fort Worth, discussed new fire protection devices at that division. Dennis Chesshir, supervisor of security and investigations, spoke on the use of electronic and electrical devices in control of areas at the Fort Worth plant.

R. S. Benton, GD/Pomona manager of industrial security spoke on Pomona's 1964 industrial security improvement program. He outlined steps taken to correct deficiencies, improve training, and update accountability systems.



SECURITY REVIEW — General Dynamics industrial security leaders met this month at GD/Pomona. Seated, from left: George D. Higgins Jr., Corporate director of industrial security; Algie A. Hendrix, Corporate vice president-industrial relations; T. R. Worthy, GD/Pomona director of industrial relations. Standing, from left: C. E. Puckett, Pomona; I. B. Hale, Fort Worth; R. W. Read, Electronics; E. D. Learn, Pomona; R. S. Benton, Pomona; John Iles, General Atomic; W. E. Bowman, Convair; R. J. O'Grady, Electric Boat; S. R. Sharp, Convair; J. V. Householder, Pomona; Dennis Chesshir, Fort Worth.



CONFERENCE — Attending GD Supplier Quality Control Working Committee meeting at GD/Fort Worth June 2-3 were, from left: H. T. McLain, GD/Electronics (Rochester); Ernest Smith, Electric Boat; B. E. Justice, GD Corporate Hdqtrs.; C. L. Penland and R. B. Davis, GD/Pomona; E. R. Weiher and D. W. James, GD/FW; G. A. Knauss, GD/Convair; W. S. Steck, GD/FW; T. J. Marcella, GD/Convair; and W. D. Shipman, Electric Boat. R. B. Davis is chairman.

Word Watcher

Skills in Communication Traced to Speech Defects

Convair's "Mr. Word Watcher," M. L. Sweeney of Dept. 821-1, became obsessed with the study of correct word usage, pronunciation, and speech in all its facets, because he had a speech deficiency as a child.

"Although I conquered the poor speech habits, I developed a horror of standing up in front of a group," Sweeney said. "I would take a course in speech until the time I was called upon to make my delivery, and then drop out."

To cure his phobia he founded the Dynamic Toastmasters Club at Convair in 1952 and since has been one of the most active speakers and promoters.

"It is the same as learning to swim," he pointed out. "You can read all the books and material but you don't know what you can do unless you jump in the water and try it."

Sweeney, a manufacturing planning coordinator, with Convair for more than 21 years, made himself an expert in the art of communication, teaching speech classes in Convair's in-plant executive training at Plant 2 several years ago and later teaching a San Diego City College evening class.

He emphasizes that talking is a tool of management to get work done, and that any time the tool is misused by failure to make meaning clear, the job does not get done.

"We all communicate through a curtain of haze, at best," he said. "No word or message means the same to any two people. For instance, the 500 most-used words have an average of 28 meanings each, and the word 'round' has 73 meanings!"

His column, "The Word Watcher," has appeared the last two years in the Management Club's publication, Managair.

In "The Word Watcher" Sweeney draws attention to common mistakes in word usage—cliches, colloquialisms, wrong tenses and persons, incorrect pronunciations, and misapprehension of meanings.

"Where do you get all that junk you put in your column?" he frequently is asked.

"From listening to people like you," is Sweeney's stock reply.



"WATCH IT" — M. L. "Larry" Sweeney, proponent of clear communication and use of "right word in right place," checks over manuscript for his "Word Watcher" column with Katie Hernandez, Dept. 821-1, Lindbergh Field plant.

Engineers Awarded Master's From SMU

Nine GD/Fort Worth employes received master's degrees from Southern Methodist University recently.

Receiving an MS in electrical engineering were Daniel M. Jones, Dept. 260, and Charles E. Martin, Dept. 160.

Engineering administration: James D. Barnard. Dept. 160; Cloyd J. Dowling, Dept. 260; Robert M. Ellis, Dept. 160; Robert L. Gabbe, Dept. 65; Eugene A. Wadsworth, Dept. 63.

Mechanical engineering: Gerald J. French, Dept. 63; and George S. McDonald Jr., Dept. 62.

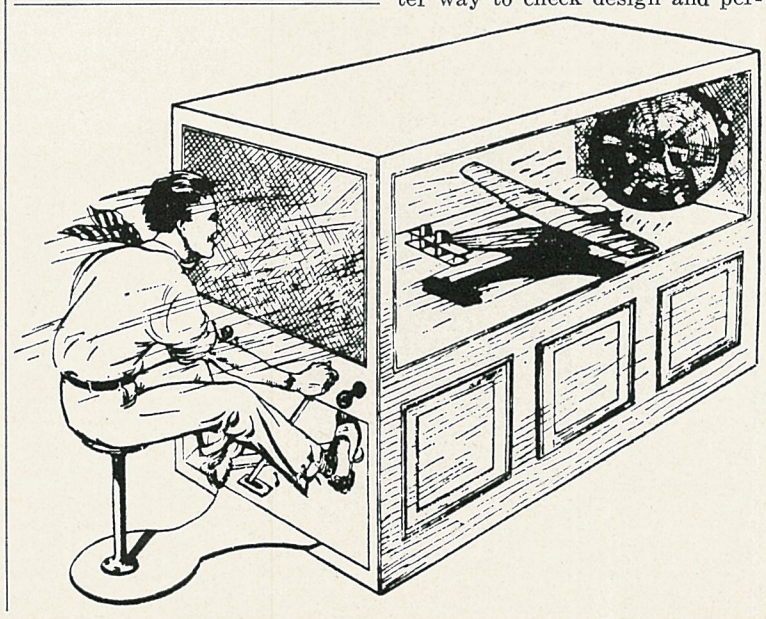
Wind by Electric Fan!

Research Engineer's Uncle First to Design Wind Tunnel

Joseph G. Weisinger, uncle of Convair's Don Weisinger, Dept. 572-2 research group engineer, is being recognized—some 35 years after the fact—as the inventor of the first wind tunnel concept!

An aviation pioneer (he still flies his own plane at 62), Weisinger became concerned in the 1920s with the number of test pilots killed in crashes of new planes "from causes which could not be readily determined."

"I decided there must be a better way to check design and performance," Weisinger recalled recently in a Newark (N.J.) Sunday News interview.

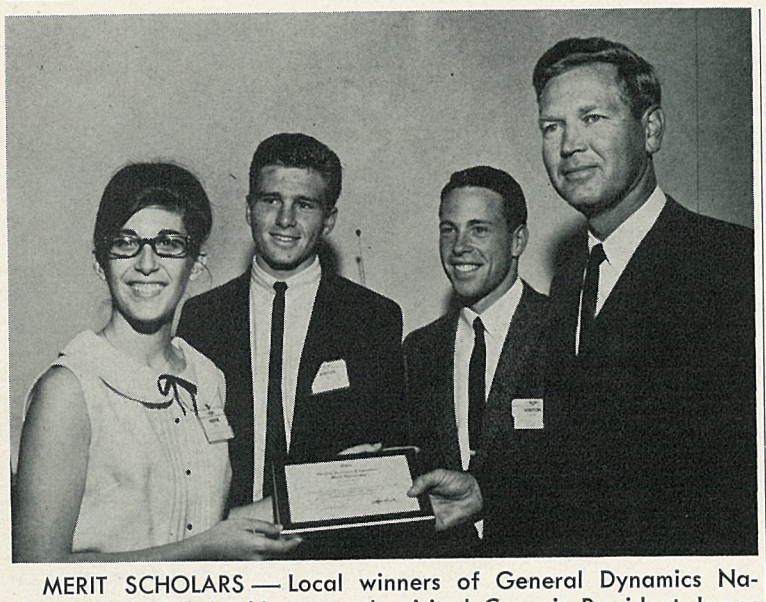


Weisinger came up with the idea of a "remote control" wind tunnel in which a scale model plane would be exposed to an airstream as it was put through various flight maneuvers. Although crude by today's standards, the principles of Weisinger's tunnel, a wooden box with wind generated by a house fan, were identical with aerodynamic testing of plane models in modern tunnels.

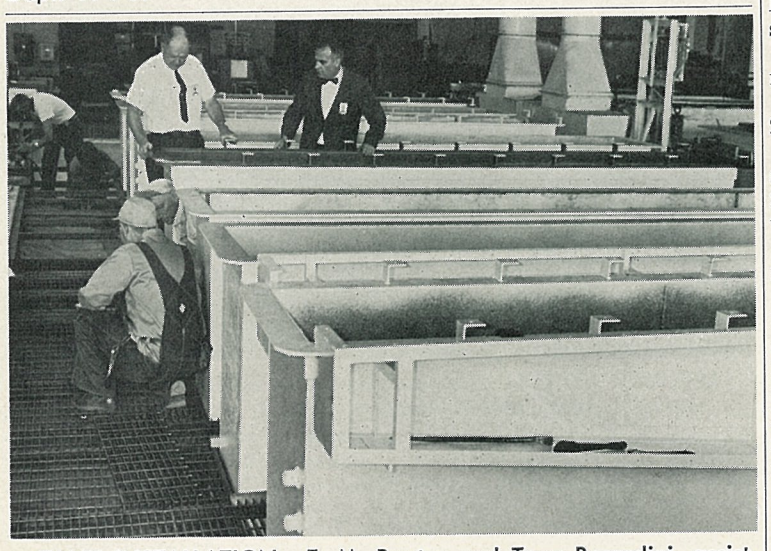
Weisinger was unable to arouse any interest in his idea until 1934 when the Navy installed a Weisinger wind tunnel aboard the carrier Lexington "for the entertainment of personnel."

"No pilot could resist the urge to operate and control the simulated flight from outside the tunnel," he said.

The Weisinger wind tunnel was not taken seriously as anything but a "toy" until a year later when a large (15-ft. diameter) glass-enclosed vertical tunnel was built by the Navy at Langley Field, Va., to imitate dives and tail spins. This was one of the forerunners of today's sophisticated wind tunnels which can put models through every type of flight test including supersonic speeds and conditions simulating high altitudes.



MERIT SCHOLARS — Local winners of General Dynamics National Merit Scholarships recently visited Convair President James R. Dempsey to receive plaques. From left, winners are Susan Karel, daughter of Glenn Karel, Dept. 581-2; Thomas Meeker, son of Jack F. Meeker, Dept. 818-2; and William Floyd, son of W. O. Floyd, Dept. 194-0.



TANK INSTALLATION—F. M. Baxter and Tony Berardini, assistant foremen in Convair Dept. 002, inspect line of new processing tanks installed in Convair's processing department at Lindbergh Field plant for cleaning of metals.



RARE CATCH—Chuck Baker and Tom Kramer, both Convair Dept. 596, and Beryle Lorentz of GD/E (center) take look at weasel found hiding in Convair's space sciences optics lab early one recent morning. It took teamwork by four men to capture the animal under plastic instrument cover. How it found its way into building is still mystery.

Humorous Skits, Songs Spoof Graduating Trade Apprentices

A change of pace enlivened the 24th annual Apprenticeship Completion Ceremony June 10 honoring some 150 San Diego apprentices, including five from Convair, who finished their trade training this year.

Amon L. Henderson, secretary-treasurer of the San Diego District Council of Carpenters, emceed the program in OceanHouse's Fleet Room which included humorous skits and special songs for each trade.

Graduating Convair apprentices were Kenneth P. Eskra, James P. Hamm, Jordan N. Stockham III, all electronics; Charles J. Anderson and Eugene E. Perkins, both tool and die makers. Perkins was cited as winner of Convair's annual apprenticeship contest and Anderson as runner-up.

L. K. Thornbrugh and Richard Johnson of Convair were given meritorious service certificates for five years' membership on the Joint Apprenticeship Committee, and H. W. Rubottom, former chief of educational services at Convair and long-time member of the committee, received a plaque marking his years of service.

The annual ceremony and banquet is sponsored by the San Diego General Apprenticeship Committee, San Diego Junior Colleges, State of California Division of Apprenticeship Standards, U. S. Department of Labor's Bureau of Apprenticeship and Training, and individual trade committees.

Re-Entry Vehicle Launched by Atlas

Atlas 299-D successfully launched an experimental re-entry vehicle in the advanced ballistic re-entry systems (ABRES) program on June 8.

The Atlas-ABRES combination was launched from VAFB by members of the 6595th Aerospace Test Wing. The Air Force Systems Command's Ballistic Systems Division manages the ABRES program which is developing even more effective re-entry vehicles for the ICBM deterrent force.

Bloodmobile Visit Set For Tomorrow

A bloodmobile will be at CRA Clubhouse tomorrow (June 24) to accept blood donations from those who wish to join the Insured Blood program in this manner.

Fee for a one-year family membership is one pint of blood, or $4. Fee for individual one-year membership is $2 or individual two-year membership for one pint of blood.

Those insured under the plan are entitled to unlimited blood in emergencies.

Area Colleges Set Deadlines

Registration deadlines for summer and fall sessions at San Diego area colleges:

San Diego State — summer: Term I, June 28; Term II, Aug. 9. Deadline for registering for fall semester is July 15.

San Diego City College—summer, June 22; fall, Sept. 1.

Cal-Western — summer, June 21; fall, Sept. 18.

University of California Extension summer classes begin June 21. Catalogues for fall semester will be available to mid-August.

University of San Diego—summer, June 23; fall, Sept. 14.

University of California at San Diego (La Jolla Campus)—inquire at Office of Admissions, Room 2104, Bldg. B, for information on undergraduate admission; Dean Graduate Studies, Bldg B, for graduate admission requirements.

Catalogues and schedules are available at Convair educational services offices, Bldg. 17, ext. 1472, at Kearny Mesa plant; and Bldg. 16, ext. 491, at Lindbergh Field plant.

Metal Process Tanks Replaced by Convair

Replacement of tanks for treatment of magnesium, stainless steel, and titanium parts in Convair's processing department at the Lindbergh Field plant completes renovation of the entire processing and plating area under progress during the last year.

Ten of the large tanks, 12-ft. long by 4-ft. deep and 2-ft. wide, contain chemical and cleansing fluids necessary to thoroughly process metal parts.

All metals, with the exception of aluminum which is processed separately, go first through a strong soap solution and then into the rinse and deoxidizer tanks. They are then put through chemical treatment to protect against corrosion and cleanse away welding marks.

Convair Son Makes 'All American Team'

Bruce Sauer, 14, son of Convair guard Art Sauer, is one of the 26 young football players to be named to the 1965 All-America Team of Little Scholars in Pop Warner Junior League Football's 14th annual nationwide scholastic and athletic competition.

All have been invited to spend June 24 to July 1 as guests of Pop Warner National Headquarters at New York and Philadelphia.

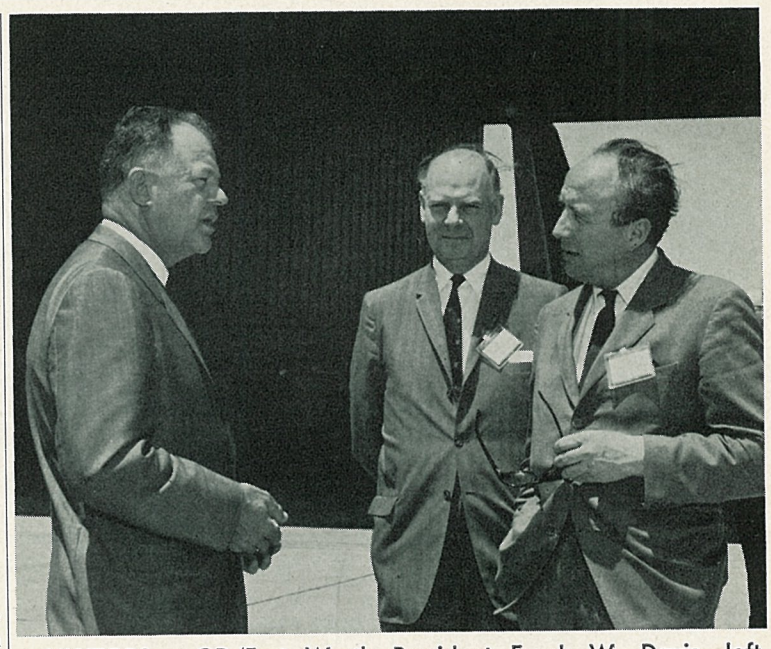
Bruce was one of three from San Diego to be chosen from the 600,000 youngsters in Pop Warner football.

50¢ Break on Tickets Offered on Hit Show

A 50-cent reduction in price of tickets to the musical, "How to Succeed in Business Without Really Trying," and also for Louis Armstrong's performance at the San Diego Civic Theatre is offered all GD people.

Exchange coupons will be at all Convair, Stromberg-Carlson, GD/Electronics employe services outlets and at CRA Clubhouse, Kearny Mesa.

The Broadway hit will run from July 14 through 24. Armstrong will be in San Diego for the night of July 31 only.



VISITORS — GD/Fort Worth President Frank W. Davis, left, briefs Roy Jenkins, right, British minister of aviation, and Dr. W. B. Littler, former head of research for Britain's defense establishment, on F-111 program.

Impressed

Aviation Minister Briefed on F-111

"A very impressive aircraft, the F-111."

That was the statement made by Roy Jenkins, British minister of aviation, after witnessing a flight of the F-111A at GD/Fort Worth.

Jenkins was briefed on the F-111 program June 9 and saw the variable-wing fighter in action during a one-day trip to the plant.

Frank W. Davis, GD/FW president, and J. T. Cosby, vice president F-111 program manager, hosted the minister and his countrymen: Deputy Secretary James Mackay; Dr. W. B. Littler, formerly head of research for the British defense establishment; and David Dowler, personal secretary.

At a brief press conference, Jenkins said he believes his government will make a decision "this fall" on whether the British will purchase up to $1 billion in F-111s and extra parts.

The British now hold an option for that amount under arrangements announced previously by U. S. Secretary of Defense Robert McNamara.

Maj. Henry West piloted F-111 No. 3 on the demonstration flight, which included a flyby at 100 feet. He thus became the first AFPRO pilot to fly the F-111 at GD/FW. W. H. Harse of GD/FW flight department was pilot-systems operator on the flight.

NICKERSONS WIN AS NORTH-SOUTH

Joan and Fred Nickerson won top North-South honors in Convair Bridge Club's monthly Master Point tournament June 4. Jim Stephenson and Al Buggele were East-West winners. Craig Stump and Richard Parker were North-South winners in June 11 play with Stephenson and Buggele leading East-West players for the third straight week.

CIRCULAR SLIDE RULES ON SALE

General Dynamics reliability slide rules, engineering tools for making routine reliability calculations, are now on sale at the CRA Clubhouse, Kearny Mesa, for $1 and 4 cents tax. The circular slide rules are used for such calculations as failure rate, mean time between failure, and confidence limits.

KEARNY EDUCATION OFFICES RELOCATED

Convair educational services at Kearny Mesa plant is now relocated in Room 4, Bldg. 17. Former location was in Bldg. 33. Phone extension of J. A. Croft, chief of educational services, remains 1471. Extension of educational services staff for general information is 1931.



Class to Convene In Oceanography

A course in theoretical oceanography is offered at San Diego State for the summer session. The class is called advanced physical science-hydrodynamics and thermodynamics of the atmosphere and the oceans. It will be taught by Dr. F. J. Howard, assistant professor of physics at State and former research oceanographer with NEL, Lockheed, Scripps Institute of Oceanography and University of Hawaii. Registration will be at the first class meeting next Tuesday (June 29), 7:30 p.m., in the physical science building. For information call 286-6111.

Special Dollar Menu Offered For Fourth

Cafeterias at the Kearny Mesa and Lindbergh Field plants will offer a special menu to celebrate July 4th.

The noon meal Thursday, July 1, will consist of: tossed green salad with choice of dressing, Yankee pot roast of beef, potatoes, buttered cut green beans, roll and butter, choice of beverages, and a cherry dessert. All for $1.

Magnuson Appoints Convention Aides

Three Convair Management Club members have been named to key chairmanships for the National Management Association's national convention in San Diego Oct. 27-29.

Appointed by Wes Magnuson, convention chairman, are Bob King, program chairman; Joe Stafford, assistant chairman; and Jim Duffy, promotion chairman.

3 p.m. Friday Deadline For CRA Medal Play

Convair golfers have until 3 p.m. this Friday (June 25) to sign for the holiday CRA medal play tourney the weekend of July 3-4 at Balboa Park course.

Starting times will be given by CRA office, ext. 1111, Kearny Mesa. Greens fees are $3, said Commissioner Ken Wulfemeyer.

Nondestruct In-Plant Course Certifies 26 For Inspection

Convair's first in-plant course on magnetic particle and liquid penetrant nondestructive testing has certified 26 men from four San Diego companies in these specific inspection methods.

The course was taught over the last three months by D. C. Ryle of Convair quality assurance under the co-sponsorship of the Society for Nondestructive Testing.

Students were from quality control functions at Convair, Solar, Rohr Aircraft, and Fairchild Corp. They are certified for one year through the Air Force MIL-Standard 410A, said Ryle, a nondestructive testing specialist with more than 20 years' experience in all phases of nondestructive testing, both as a certified inspector at Convair plants and off-site bases and instructor in college and company training courses.

The classes, three hours each week, familiarized students with the wet and dry magnetic particle methods of detecting subsurface defects in ferrous materials and the fluorescent (black light) and die penetrant methods of locating surface discontinuities in nonferrous materials, such as stainless steel, aluminum, magnesium, titanium, plastics.

Classwork was supplemented with actual inspection of catalogued parts and practical application of all phases of the course. Convair technical manuals were included in the textbook material.



INSPECTION CLASS — Twenty-six quality control men learn intricacies of magnetic particle and liquid penetrant nondestructive testing for defects in Convair's first in-plant course. At far right is D. C. Ryle of Convair quality assurance, instructor.

880 Converted From Test Ship To Carry Passengers For TWA

Convair's first-built 880, and last to be placed in service, was rolled out of Trans World Airlines' Maintenance and Overhaul Base at Kansas City, Mo., May 21 and began carrying passengers the next week after a special program to convert the test flight plane to a TWA passenger jet.

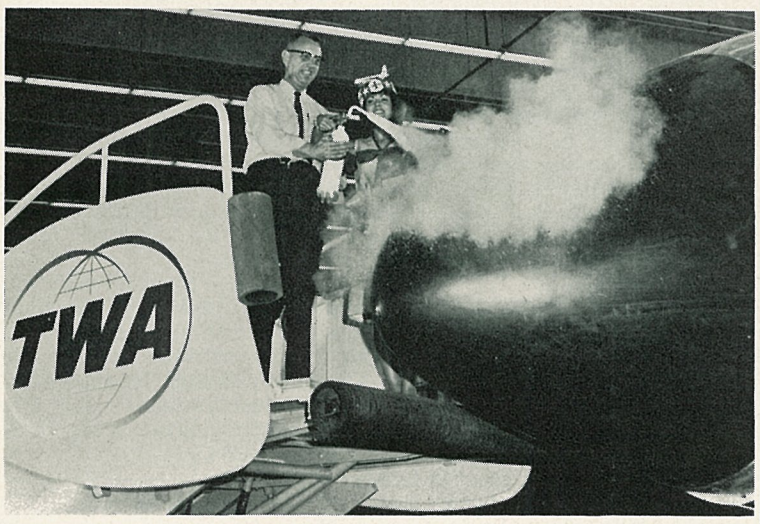
Completion was ahead of schedule. Convair furnished technical assistance and the major portion of spare parts, as well as assisted in obtaining Federal Aviation Agency certification on TWA special installations during the seven-month task.

Witnessing the roll-out and christening ceremony were L. J. Bordelon, Convair manager of customer requirements; Henry Bombach, field service representative based with TWA; G. J. Kincaid, structures engineer, who headed the Convair support team as off-site coordinator; and Jack Yonke, logistics contract representative, who acted as spares support coordinator.

Others at Kansas City all or part of the time during the conversion were T. L. Keinholz, W. H. Highfill, K. R. Lemley, engineers; E. L. Brown, G. W. Just, C. C. Risner, inspectors; James Hatchett, G. E. Armstrong, W. E. Carriker, factory; Frank Linn, Wes Kellogg, Neil Goad, planning; Alex Rinaldi, logistics support. L. J. Hayes was in charge of contract administration at the Convair San Diego plant and all Convair project assistance was coordinated through E. F. Kotnik of the 880/990 program office.

Kotnik said FAA's San Diego Aircraft Engineering District Office helped expedite ticketing of the plane so it could go into service May 28.

The 880, built in 1958, was used as a test plane to certify both 880 and 880-M type aircraft.



"CLOUD" CHRISTENING — Convair's first 880 is given gala send-off by TWA general foreman of airframe overhaul, Hugh Temple, and Queen Wanda Harmon at roll-out after seven-month conversion from test plane to passenger carrier at TWA Maintenance and Overhaul Base, Kansas City, Mo. It went into service May 28.

Toastmasters Club Entertains Wives

Wives of Convair Toastmasters Club No. 3745 members were guests at the club's quarterly dinner meeting.

Permanent trophies were awarded members in the following categories:

Best speaker trophy — Les Dassoff, Hal Story, Dale Nash, Stan Bobrowski, Sam Petcher, and Bill Morgan.

Best evaluator trophy — Bill Kirk, Bob Peterson, Dassoff, Lonnie Franklin, and Earl Smith.

Tom O'Laughlin was named most improved Toastmaster and Dassoff the most outstanding.

For information regarding the activity, call Story, ext. 1827; Nash, ext. 4436; or Dassoff, ext. 2546; all at Kearny Mesa.

10 Years of Studying Climaxed by Degree

A Convair woman culminated long years of study this month when she received her Bachelor of Arts degree in social welfare at the June 11 San Diego State College commencement.

Eula Beale (Dept. 101-6), not only had to complete her high school credits when she resumed her formal education 12 years ago, but in the meantime adopted two children and cared for her family while working full-time on second and third shifts in Convair's key punch operations.

Product Suppliers Display Their Wares

More than 30 suppliers of products to GD/Convair recently displayed their services at the Kearny Mesa plant.

The display was a part of Convair's value control program to keep the division informed of newly developed materials, products, and processes offered and to inform suppliers of Convair needs.

In addition to many firms from California, suppliers from New York, Massachusetts, Illinois, Missouri, and New Jersey took part.

Sommers and Maxion Take Survey Trips

Roy Sommers, Convair chief of field service, and Don Maxion, regional field service representative, were Convair representatives for this year's Trans World Airlines annual line performance audit.

They spent from April 22 to May 5 criss-crossing the country on TWA planes including Convair 880s, Boeing 707s and 727s, and Lockheed Constellations as part of an evaluation team invited by TWA to survey and review all phases of its operations. This is the fifth year Convair has participated.

Salvage to Close On July 4 Weekend

Salvage yards at Convair plants will be closed Saturday (July 3) for the Fourth of July holiday weekend.

Regular alternating Saturday morning schedule will continue as usual the rest of the month of July and the yard at Kearny Mesa plant will be open this coming Saturday (June 26), 8 a.m. to noon.

July schedule is: Kearny Mesa Plant—July 10, 24; Lindbergh Field Plant—July 17, 31.

Native of Holland Joins Patent Staff

Nicholas DeVogel recently joined the GD/Convair division's legal staff as a patent agent. He was previously a supervisor on the patent staff in the headquarters offices of Boeing.

DeVogel was born in Rotterdam, Holland, and was educated in private colleges in the Netherlands. Prior to coming to the U. S., he was employed by a Canadian engineering consulting firm.

SIX MORE NEEDED ON MEXICO TOUR

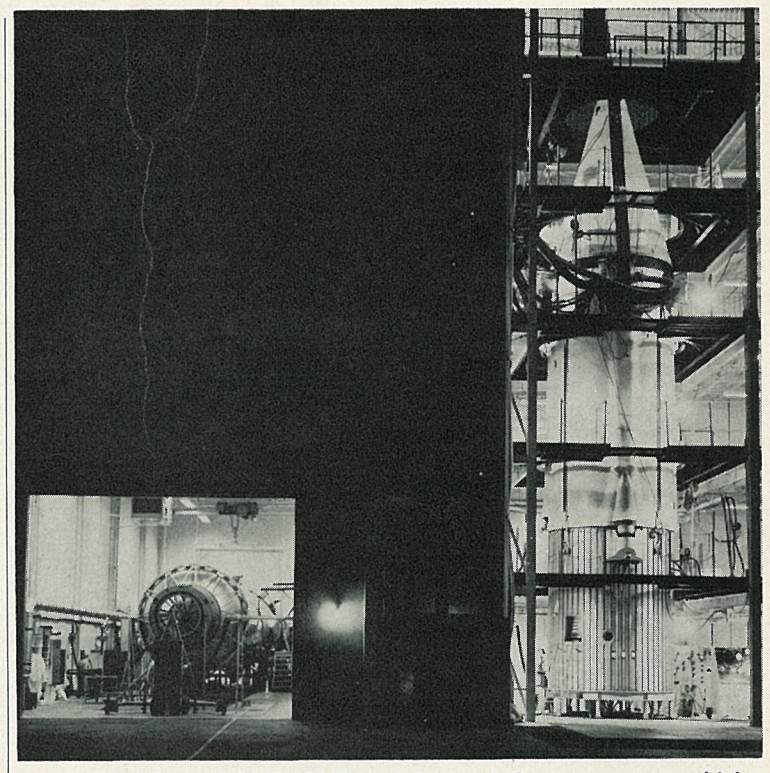
There is still room for six more people on the Mexican tour Aug. 14-29 if they sign at once. Absolute deadline is July 13. For registration or information call Jim Hardison, home phone, 276-5805.

DISCOUNT TICKETS TO FAIR OFFERED

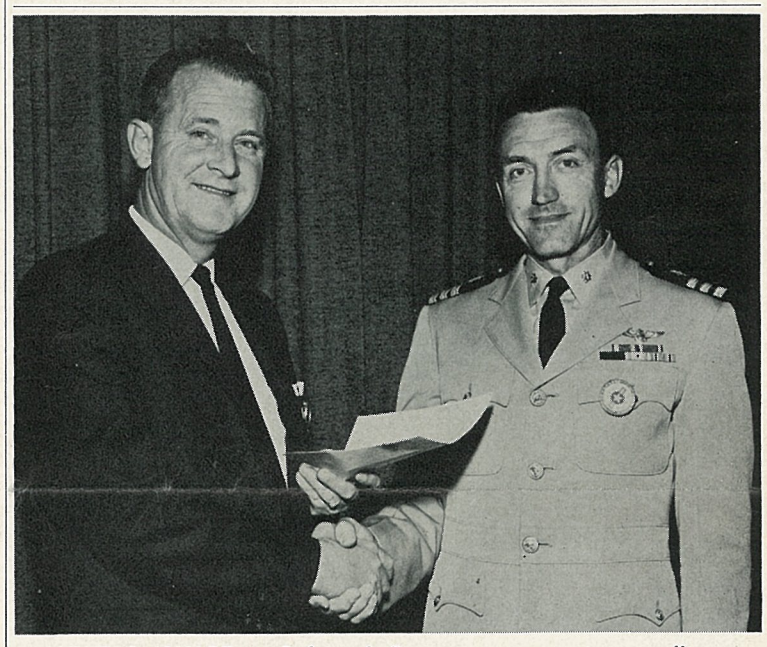
Discount tickets to the annual Del Mar Fair may still be purchased the rest of this week at GD employe services outlets. Fair dates are from this Friday, June 25, through July 5. Reduced price to GD people is 75 cents for $1 general admission.

INTER-PLANT ROAD CLOSED TO TRAFFIC

Access road between Plant 19 and Lindbergh Field plant was closed to traffic last week. Now all vehicles must enter from Pacific Highway through Gate 23, adjacent to the overpass.



MATED FOR MOONFLIGHT — Atlas and Centaur space vehicles rehearse in combined systems test stand (CSTS) at San Diego. Model of Surveyor spacecraft which will be launched on its first flight toward the moon later this year is enclosed within nose fairing atop Centaur (right). Atlas (left) and Centaur are mated electrically at CSTS and perform most of moon flight operations (except for engine ignition) just as they will on actual mission. Flight simulation reduces preparation time at Cape Kennedy and insures that entire vehicle is ready when required. CSTS — first such facility built for ground testing of all stages of a space vehicle — is operated for NASA by GD/Convair.



BUWEPS AWARD — Robert J. Preece, space system quality control assistant, receives cash award from Cdr. R. A. Evans, USN, BUWEPSREP at San Diego, for beneficial suggestion. Another award recently went to Miss Lee Hilton, clerk-stenographer in engineering division, for superior achievement.

Year's Fourth Value Engineer Seminar Assigned Projects

The fourth 40-hour value engineering workshop of 1965 was held at GD/Convair June 7-18.

The keynote address was given by W. W. Fox, Convair director of product design. Fox said that value engineering produces low-cost design, and that the aim of Convair's value engineering program is to make cost as well as performance a target for design.

Teams and their projects were:

Team No. 1—Forward flap assembly. J. Dallas, Dept. 250-1; G. C. French, Dept. 545-2; P. B. McLane, Dept. 818-2; P. Pemberton, Dept. 491-0; R. W. Saunders, Dept. 532-1. Project leader, C. L. Hibert, Dept. 561-0.

Team No. 2—Upper center rudder balance. S. S. Jensen, Dept. 015-0; D. I. Keffler, Dept. 522-8; T. Martinez, Dept. 833-1; D. E. Williams, Dept. 344-3; E. L. Wolfensberger, Dept. 544-3. Project leader, Hibert.

Team No. 3—Stabilizer balance. F. Araiza, Dept. 491-0; T. Kale, Dept. 543-1; R. R. Rendina, Dept. 420-4; E. J. Wiley, Dept. 522-1; W. Rauscht, Dept. 531-0. Project leader, Hibert.

Team No. 4—Mixer box. J. D. Anderson, Dept. 574-1; F. L. Beale, Dept. 532-2; B. Luffe, Dept. 031-0; R. C. Maving, Dept. 195-6; K. L. Giddings, Dept. 543-2. Project leader, G. J. Kincaid, Dept. 564-0.

Team No. 5—Canopy crank assembly. W. C. Edwards, Dept. 522-6; R. C. Scarborough, Dept. 522-3; D. Slingsby, Dept. 760-0; B. L. Van Tuyl, Dept. 522-3. Project leader, Kincaid.

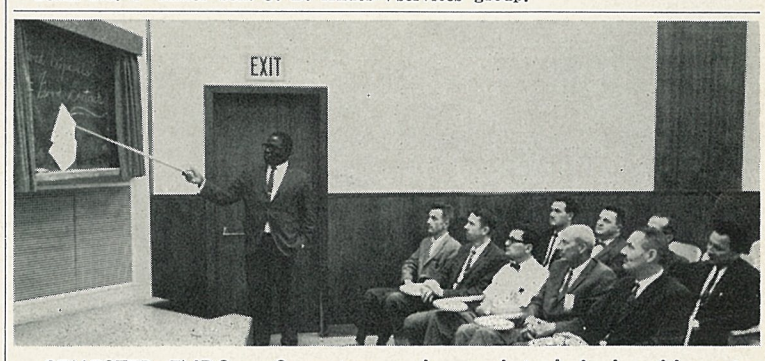
Team No. 6—Hold open cowl strut assembly. R. E. Anspach, Dept. 533-3; D. Byrd, Dept. 142-1; D. E. Hays, Dept. 552-1; N. D. Baird, Dept. 491-0; V. M. Salazar, Dept. 780-0. Project leader, D. E. Evanson, Dept. 403-3.

Team No. 7—Turbine air bearing exit duct. J. W. Dixon, Dept. 143-0; H. R. Newcomb, Dept. 545-2; A. Minniti, Dept. 553-2; D. E. Norton, Dept. 491-0. Project leader, Evanson.

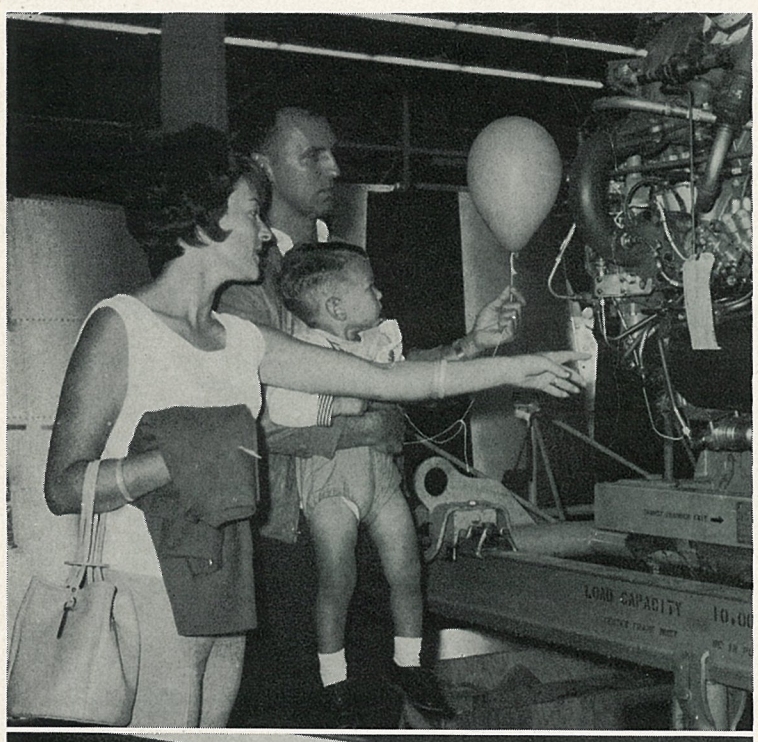
Team No. 8—Piggyback heat line tube. W. Garcia, Dept. 550-0; R. G. Hazelwood, Dept. 145-0; W. Hem, Dept. 522-8; R. W. Kincaid, Dept. 971-5; B. Turpin, Dept. 405-0. Project leader, Evanson.

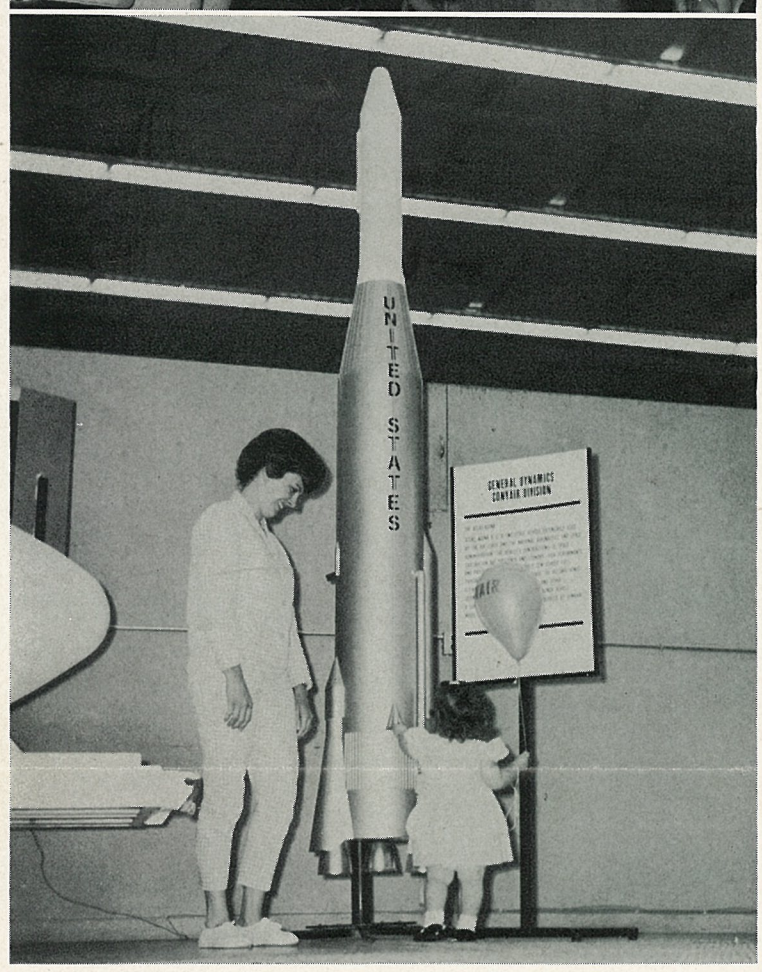
Projects for Teams 1, 2, 5, 6, 7, and 8 were submitted by George Webber, operations. Projects for Teams 3 and 4 were submitted by G. W. Bancroft, engineering.

The workshop was coordinated by Everett Lindem of Convair's educational services group.



SEMESTER ENDS — Seventeen advanced technical writing students in Convair in-plant Technical Proposal Writing course receive final briefing from instructor, Louie Henderson, as semester came to close last week at Lindbergh Field plant. This is fifth year Henderson has taught classes under sponsorship of Convair educational services.





VISITING MAB FIVE — GD/Convair employes in Western Test Range Operations joined personnel of 6595th Aerospace Test Wing late last month in conducting first open house for their dependents at VAFB. Visitors saw MAB Five, principal Convair building at base, enjoyed close-up looks at both Atlas and SLV-3. Buses took families to ABRES A site (formerly 576-A site) where Air Force launched its first ICBM nearly six years ago.

Convair Personnel at Cape Kennedy Donate Blood For Widow's Open-Heart Surgery

Convair personnel at Cape Kennedy recently helped to make possible an open-heart surgery for the widow of a Convair employe.

B. G. MacNabb, Convair manager of base operations at the Cape, learned that Mrs. Cliff (Jean) Tobin could no longer continue working unless she underwent open-heart surgery. One of the requirements for the operation was 20 to 25 pints of blood. Convair donors responded to MacNabb's appeal and the operation was a complete success.

"Words alone fail to express my profound gratitude to each and every Convair employe who responded," MacNabb commented.



NEW OFFICERS — Don Fagen, manager of Convair operations at VAFB, installed new officers of Convair Wives Club at Vandenberg, from left, Mrs. Robert Nelson, president; Mrs. Roger Schilling, vice president; and Mrs. Art Sanger, secretary-treasurer.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for next issue of GD/NEWS is before noon, June 30.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BRIDGE — Weekly tournaments Fridays, 7:30 p.m., CRA Clubhouse. Master Point Night first Friday of each month.

CERAMICS — Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

DELTA DIVERS — Sign for trip to Todos Santos Island by calling Bob Nicholas, ext. 769, Kearny Mesa.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Meeting July 7, 7:30 p.m., Floral Assoc. Bldg.

GOLF — Call ext. 1111 before 3 p.m. this Friday for starting times in July 3-4 tourney, Balboa course.

GUN CLUB—Registered ATA shoot June 27, Gillespie Field.

ICE SKATING — General Dynamics skate sessions now from 6:15 to 7:45 p.m., Thursdays, Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — CRA shoot 9:15 a.m., June 27 at San Diego Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting July 7, CRA Clubhouse, 7:30 p.m.

RIFLE CLUB—Quarterly staff party and meeting June 25, Gillespie Field.

ROCKHOUNDS — Rockhound shack at Gillespie Field closed from June 30 to Sept. 8. Lapidary classes continue at Kearny Mesa Clubhouse.

SCULPTURE — Workshop sessions Mondays, 7:30 p.m., CRA Clubhouse.

SPANISH — Enrollment still open for CRA beginners' course. Tuesdays, 7-9 p.m., Convair executive dining room, Pacific Hwy.

TABLE TENNIS — New activity being formed. Call Ray Hardy, ext. 2549, or Bob Herold, ext. 3392, for information.

TROPICAL FISH — Meetings second Monday of each month, Room C, CRA Clubhouse. Workshops on Thursdays. Call Dick Rowe, ext. 2105 or 2193, Kearny Mesa, for information.

WATER SKI — Organizational meeting tonight (June 23), 7:30 p.m., CRA Clubhouse.

Blackburn, Nicholas Lead Spearfishing

Larry Blackburn surfaced with the most fish during June 13 spearfishing of Delta Divers at Windansea beach.

Del Daniels had second largest catch; Bob Nicholas, third; Frank Harvey, fourth.

Future outings include a scavenger hunt from Alligator Head Point at La Jolla Cove, Sunday, July 18, and a trip to Todos Santos Island off Ensenada in Baja California. Nicholas is taking reservations over ext. 769, Kearny Mesa, for the latter.

TABLE TENNIS PLAY ADDED

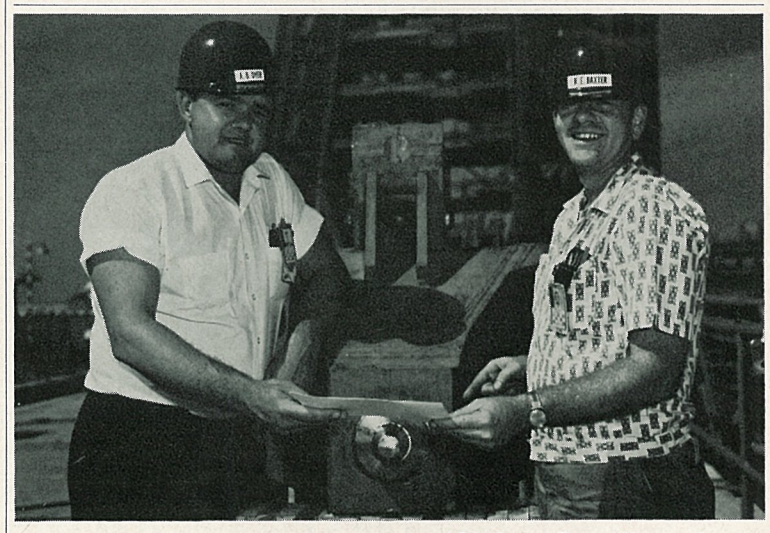
Table tennis has been added to the CRA sports calendar with registration open now for all employes and members of their families. Play will be Mondays Wednesdays, and Fridays from 6 to 10 p.m. on the CRA Clubhouse stage. Ray Hardy, commissioner, ext. 2549, or Bob Herold, ext. 3392, both Kearny Mesa, will take sign-ups.

GD Water Skiers Organizing Tonight

All GD water skiers interested in forming a CRA group are asked to meet tonight (June 23) in Room C in the CRA Clubhouse to firm up organization plans. Call CRA Headquarters, ext. 1111 for information.



TRIPLE WINNERS — May Craftsmanship award to PALC I crew at VAFB marks third win for group. In addition to second gold star on craftsmanship plaque, crew members received silver lapel pins and a letter from James R. Dempsey, Convair president. On hand for award ceremonies were (seated behind sign, from left) R. D. Wasser, Convair chief of reliability control at VAFB; James Copeland Jr., assistant site manager; F. M. Anderson, site manager; and Lt. Col. Woodrow Marcus, assistant deputy commander for space systems, 6595th Aerospace Test Wing.



IT PAYS OFF — Andy Dyer, Dept. 681-3 at Cape Kennedy, rewards R. E. Baxter, mechanical technician, for Employe Suggestion that improved repositioning launcher heads. During first four months of year Cape employes' ideas resulted in savings of more than $12,000.

Convair Wives' Club 'Scrub-Outs' Capture Bowling League at VAFB

VANDENBERG AFB—"Scrub-Outs" won top team trophy in Convair Wives' Club bowling league play at the close of the winter season with awards handed out at the May 8 club installation meeting.

Don Fagan, director of Convair operations at Vandenberg, made presentations with the help of Monica Simonson, bowling league president, and Mrs. Robert Walker, league secretary.

Members of the champ keg team were Mrs. Simonson, Joyce Walton, and Betty Swain.

Second-place team awards went to the "Pin Splitters"—Dorothy MacClure, Shirley Kowalik, and Sylvia Davenport.

Mrs. Davenport also won the trophy for the season's high average. Diana Sanger held high individual handicap series; Joyce Walton, high individual handicap game; Virginia Wynn, high individual scratch series; Doris Green, high individual scratch game; Mrs. MacClure, most improved bowler.

500-series pins went to Helen Hancock, Mrs. Davenport, Mrs. Sanger, and Mrs. Wynn. 175-game pins were awarded Mrs. Walton, Mrs. Wynn, Stella Rosenthal, Mrs. Swain, Mrs. MacClure, Janet Nelson, Mrs. Simonson, Dorothy Clark, Beverly Weaver, and Mary Ann Fewell.

The sponsor's trophy was accepted by Curtis Johnston for the Convair Recreation Association and will be displayed in the trophy case in the lobby of the Missile Assembly Bldg. 5 at VAFB.

Federal Budgeting Intricacies Explained Before Mgt. Club

R. D. "Duff" Ginter, National Aeronautics and Space Administration's Headquarters program manager for Centaur, told a recent meeting of GD/Convair Management Club "Where the Money Comes From."

Ginter said that everybody knows the money for national space programs comes basically from taxpayers, but that the budget cycle, and the way the checks and balances system of politics applies to the way money is allocated for specific programs, may not be so well known.

Using the Centaur project as his example, Ginter traced the three-year budget cycle required to fund Centaur.

He said work on the fiscal year 1967 commenced in May, 1965, and by September, this budget goes to the Bureau of the Budget, an arm of the Executive Branch. This is termed the "first call" on the budget; what returns from the bureau is called the "BuBud Markup." Ginter said that by December, 1965, there would have to be a "ribbon tied around" the fiscal 1967 budget so that the President could deliver the budget to Congress in January, 1966.

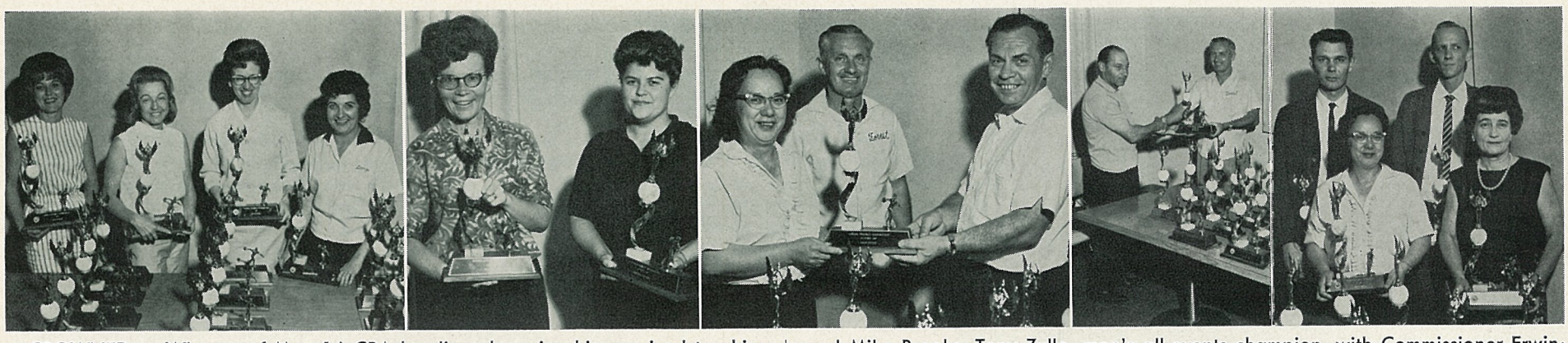
In February and March of 1966, the House Astronautics and Space Committee, will hold hearings. After this, a Congressional appropriations committee must agree to spend the money that has been authorized. Then the authorized, appropriated budget goes back to the Bureau of the Budget for apportionment. This is Executive Branch control; here the budget cannot be increased; but it can be decreased.

Ginter reminded his audience that in the three-year budget cycle, what is said today must make sense two years from now, and the commandment "Thou shalt neither exceed the amount nor change the purpose" is always present.

In response to questions from the floor, Ginter said that there are no current plans for Centaur to launch astronauts; that the Centaur-on-Saturn is needed for the Voyager mission; and that the Voyager program is scheduled into the 1970s.

TOP CAKE BAKER

Mary Gadey, wife of A. L. Gadey, Convair Dept. 250-1, was judged top cake baker at the East San Diego County Fair in El Cajon. Mrs. Gadey, second last year, proved her culinary skill with two orange chiffon cakes.



CROWNED — Winners of May 16 CRA bowling championship received trophies recently. Photos, from left: winning women's team of Anita Crouse, Loyce Edwards, Ruth Young, Dory Bucaro; women's doubles champions, Nancy Acosta, Barbara Shepard; Edith Spetch, women's all-events winner, with Commissioners Forest Erwin and Mike Brooks; Tony Zullo, men's all-events champion, with Commissioner Erwin; members of top mixed team (all GD/Electronics), Edith Spetch, Elaine Teagarden, Bert Peterson, Tom Woods. Captain Ed Lou, was not present. Tourney was originally scheduled as 8th annual ARA championship.

Teams Play Openers In Slow-Pitch Loops

CRA slow-pitch softball openers the first of the month saw Hi-Lows winning from Controllers, 7-4, and Stromberg-Carlson beating Floxers, 10-7, on June 2 in American League games. National League winners the next night were Test Lab over CSTS 79ers, 8-6; GD/E Purchasing over GASP, 16-8; and GD/E Operations over Convair Material, 25-8.

In June 9 American League games Pre-War Personnel beat Stromberg-Carlson, 11-6, and Floxers won from Hi-Lows, 12-8.

National League winners June 10 were GD/E Purchasing over Convair Material, 12-5; GASP over CSTS 79ers, 21-20; and GD/E Operations over Test Lab, 17-3.

Fast-Pitch Teams Closely Bunched

CRA fast-pitch softball teams were bunched after four weeks of play with five of the ten teams winning two games up to June 15.

Cosmos Bums won both their Saturday morning games, downing Service Parts, 9-1, on June 5 and R&D Electronics, 14-4, June 12. Q.C. Colts and Embezzlers tied 5-5 and Technics beat Spoilers 6-2, on June 7. The next night Underbrush shut out Service Parts, 5-0, and 101 beat Centaur, 14-4.

Spoilers came back June 14 to edge by Centaur, 2-1, and Service Parts took one from Technics, 13-7.

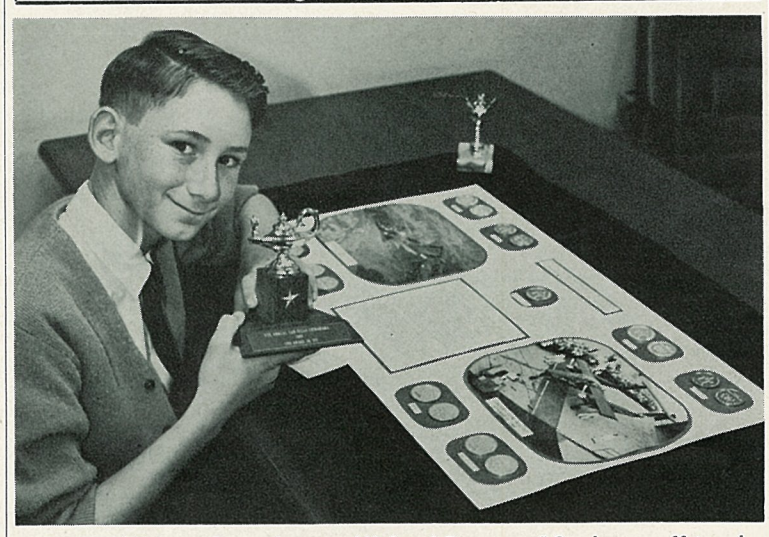
RIDERS CONTINUE TO STABLE MOUNTS

CRA Riding Club members still have the opportunity of stabling their mounts at the new Mountain View Ranch stables on S. Ruffin Road, Kearny Mesa, on a cooperative basis. Information may be obtained by calling 277-0371.

GARDENERS PLAN DEMONSTRATION

A double-feature program is scheduled for Convair gardeners at the July 7 meeting, 7:30 p.m., in Balboa Park's Floral Association Bldg. with a demonstration of grafting and a dahlia judging.

Sports & Recreation



FIRST WIN — Convair son, Michael Benson, 12, shows off trophy won with first try at exhibiting in recent Coin-a-Rama. Display centered around Convair's Charger commemorative coins.

Convair's Coineers Dominate County Numismatic Exhibits

Convair Coineers won almost half the top awards in the 8th annual Coin-a-Rama sponsored by San Diego County's Numismatic Council.

Firsts in senior division classifications went to A. L. Baber for his display, a type-set of Japanese coins from the 1860 economic revolution to the present; Mrs. Baber's 2½-centime silver Panamanian coin, smallest ever minted in the Western Hemisphere; James D. White, paper money issued during California's gold rush days; Joseph Garside, showing debasement of the Japanese 50-cent piece from 1914-1965.

Second places were won by Frances and Glenn Tuttle. Thirds went to Harriet Thompson, Raymond S. Toy and Richard Watt.

Michael Benson, 12, son of Convair's Ed Benson and a member of the CRA group, arranged a graphic display of Charger (COIN) commemorative coins to take second in the junior division.

CRA Gardeners Win Valley Show Awards

Several Convair Garden Club members won blue ribbons in the recent Mission Valley Center Flower and Garden show.

Best entry in cut flower class went to Charles Splinter, Dept. 759, for one stem of larkspur.

Best three-rose bloom award went to Mrs. Marie White, retired from Convair.

Best hanging basket entry and feature fern display award went to Bill Spann, son of Helen Spann, Dept. 953.

Feature orchid display award went to Virgil Schade, Dept. 131.

Feature display of potted plants and cut flowers award went to the Convair Garden Club.

Women's Golf Headed By Margaret Clark

Margaret Clark of Convair will head the GD Women's Golf Club as president after July 7 installation.

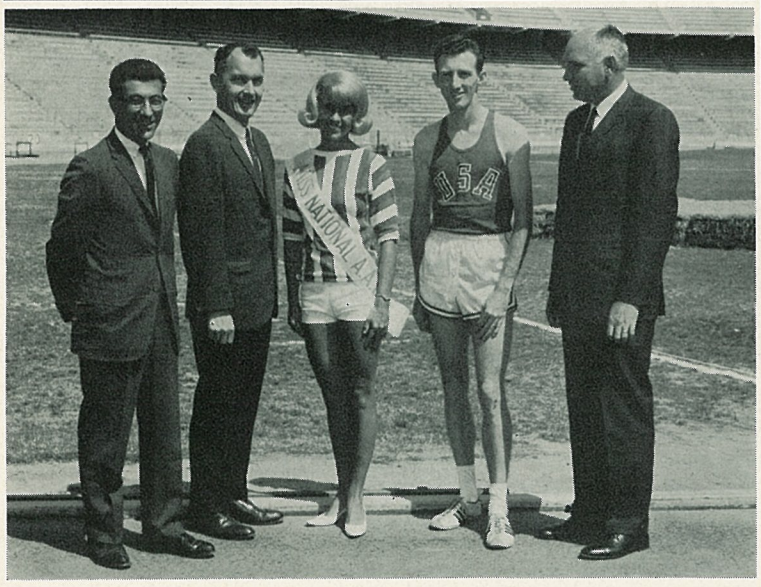
Other results of balloting: vice president, Ann Gagnon (husband at Convair); secretary-treasurer, Emma Webb of GD/E.

Mary Ransom won low net in the June 12 tournament. Runner-up was Joy Ward of Stromberg-Carlson; third, Rachel Hackney, of General Atomic; fourth, Jean Mishall, also of General Atomic. Ann Gagnon and Violet Gilbert tied for fifth.

Next monthly event will be July 10 at Tecolote Canyon.

TROPICAL FISH CLUB EXPANDS

CRA's Tropical Fish Club is expanding, with 33 members attending the June 14 meeting, said Pete Beyrer of CRA Headquarters. Workshops are held each Thursday evening in the CRA maintenance building on the east side of the picnic area at Kearny Mesa. Regular monthly meetings are second Mondays in Room C of the CRA Clubhouse.



OLYMPIC WINNER — Bob Schul, Gold Medal winner in 5,000 meter run and world's two mile record holder will be sponsored by Convair Management Club in June 26-27 National AAU meet in Balboa Stadium. Shown with Schul are Ad Mosco, Don Slingsby, Terri Torp, and Bob King. Tickets may be purchased at CRA Clubhouse, Kearny Mesa; employe services at Kearny Mesa and Lindbergh Field plants, Plant 19 and Rose Canyon; GD/E and Stromberg-Carlson employe services.

Convair Teams Place First In Annual IRA Gun Events

Convair teams placed first and third in trap, and first in skeet and rifle in the 12th annual Industrial Recreation Council gun shoot at CRA's Gillespie Field range and took third in the pistol event at the San Diego Police Pistol Course.

A CRA team of George Harbaugh, William Reid, George Skurla, Lou Steiner, George Anderson shot 232 out of a possible 250 to win first in the trapshoot. Reid was high man with 49 out of 50.

Another Convair five—Jack Swank, Leo Redman, Ezra Johnson, Ed "Doc" Barrett, and Russ Morissette—placed third.

A Convair skeet team shot 230 for top place in that event. Team members were Wayne Eddington, Warner Gatterman, Red Pharis, George Skurla, Jack Swank. Pharis shot 50 straight.

CRA's rifle entry scored 1,463 to win over NEL's 1,384. Convair shooters were Herold Schnaubelt, Dave Farrelly, Bob Andrews, John Dawson.

Convair's team in the pistol event was composed of Joe Williamson, Roland Schneider, Bill Geopfarth, and Roscoe Anderson.

Baseball Fans Fill Four Buses For Trips to Los Angeles Games

General Dynamics ball fans will have a chance to see two more major league games in the next couple of months with the overwhelming success of recent CRA-sponsored trips to the Los Angeles ball park.

Four busloads traveled to Chavez Ravine to see the May 31 Dodgers vs. Cincinnati doubleheader, and an equal number were filled for the June 13 trip to the Yankees vs. Angels game.

Next scheduled trip is July 25 when the Dodgers meet the champion St. Louis Cardinals.

Another bus tour will be arranged for Aug. 22 to see the L. A. Angels and Minnesota Twins.

Reservations for either date are being accepted at CRA Clubhouse, Kearny Mesa, or at Lindbergh Field employe services, Bldg. 16. Deadline for reserving seats is four days before each game date.

Price continues to be $5.50, as for the past tours. This covers both transportation and game admission, and must be paid at time of sign-up.

Buses leave Kearny Mesa plant and Lindbergh Field's Bldg. 19 parking lot at 9:30 a.m. with return around 6 p.m.

John Walker Heads Convair Rockhounds

John Walker of Dept. 817-0 was elected president of CRA Rockhounds June 10.

Vice president is Jim Sugg; treasurer, O. J. Williams; secretary, Louise Robson; field trip chairman, Charles Purdy; entertainment chairman, Ann Manor; workshop chairman, Glen Perkins. Board of control members are Mildred Taylor, Ed Wawzynski, Earl Manor, outgoing president, and William Taylor.

The Rockhound shack at Gillespie Field will be closed from June 30 until Sept. 8. However, lapidary classes at the Kearny Mesa Clubhouse will continue through the summer months.

CRA's Golf Schedule Includes Five Courses

CRA golf schedule for the remainder of the current year is:

July 3-4—Balboa course.

Aug. 14-15, 22, 28-29—Plant championships, match play, Cottonwood.

Sept. 11-12—Bonita Valley.

Oct. 9-10—San Luis Rey.

Nov. 13-14—Cottonwood.

Dec. 4-5—Circle R.

Industrial Bowling Tournament Slated

Convair, associate contractor, NASA, and Air Force personnel are invited to join the third annual Men's Industrial Bowling Tournament to be held in Clairemont Bowl on the weekends of July 17-18, and 24-25.

Charge is $3.75 for each event (doubles, singles) entered; $1 added for all-events.

Entry blanks are available at all employe services outlets. Entries close midnight, July 4.

For further information, call Sam Bucaro, ext. 3415 at the Kearny Mesa plant.



LET'S GET ACQUAINTED — Mrs. Kenneth Morefield serves tea to (from left) Mrs. Eric Callard, Mrs. Donald J. Hatfield, Mrs. Joe Heatherly, Mrs. Paul Schroeder, Mrs. John Beatty, club president, Mrs. Daniel Nordeck at Convair Wives' annual membership tea held at CRA Clubhouse June 9.



A SINGLE BLOW — Pretty Judy Petroff, secretary to Warren G. Mang, Dynapak product manager for Electro Dynamic division, holds compact made on Model 1220D Dynapak. It was formed in a single blow, using loose sponge iron powder.

Use of Metal Powder In Part Forming Grows

A metal disc, 13 inches in diameter and .66 in thickness, has been successfully compacted on a Dynapak metalworking press at Electro Dynamic division of General Dynamics, Avenel, N. J., using metal powder.

It is reported to be the largest part thus far compacted on a Dynapak press. Electro Dynamic produces Dynapak in four major models.

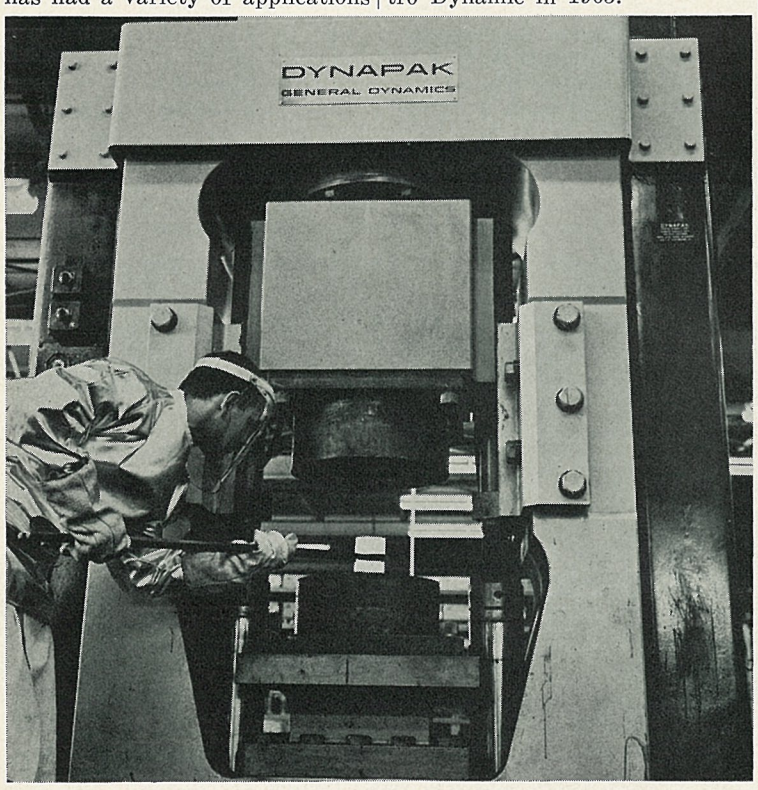
The 20-pound disc was made from loose, sponge iron powder in a single blow at room temperature. Controls were set to deliver 190,000 pounds of energy. If formed conventionally, the part would have required a hydraulic press of approximately 7,000 pounds.

Although part forming by Dynapak presses usually involves solid metal billets, the use of metal powder has been rapidly gaining attention, Roy J. Wagner, Electro Dynamic sales promotion manager, reported. High density is achieved and finishing costs are lower.

Dynapak machinery, which uses compressed gases to form metal parts with great precision, has had a variety of applications in the forging, automotive and aerospace industries. More than 100 units are in operation, the bulk in the U. S. but a respectable number have been sold abroad. Raymond B. Carey Jr., Electro Dynamic president, reported recently that basic reliability of the machine and process have been attained and he looked toward a continually expanding market as a result of Dynapak's numerous economic advantages.

The Dynapak line involves four standard models ranging from the Model 400, rated at 12,000-foot-pounds of energy, to the Model 2045, rated at 500,000-foot-pounds. The part described above was formed on a Model 1220D.

The Dynapak principle originally was an outgrowth of General Dynamics aerospace work on pneumatics as a practical solution to taming chemical explosive forming and making a safe, repeatable, in-plant production machine. Original development was conducted at Pomona, Calif., with the project moving to San Diego in early 1961. Responsibility for Dynapak was transferred to Electro Dynamic in 1963.



DYNAPAK IN ACTION — Dynapak metalworking machine combines fast strike of drop hammer with follow-through of hydraulic ram.

Sophisticated Techniques

Driving Tips From the Pros

The best driving on the road is done by the real pros. Every man who earns his living by driving is not necessarily a professional driver, however. Still, the vast majority of these men distinguish themselves by sharpening their driving skills to a point which clearly marks them as professionals. Although the difference between the ordinary driver and the professional drivers is seldom anything great or spectacular—rather a lot of little things done properly at all times—there is, nevertheless, a measurable difference. And the little things which make the difference can be learned by anyone. Here are some of the tricks of the driving trade practiced by the real pros.

They can help you to be as good a driver as you think you are.

BEFORE YOU START

Professional drivers are unanimous in believing that you should sit up straight and not slouch in the driver's seat. They also say you should sit fairly close to the wheel—at most from four to eight inches away from the lower rim. Make the necessary seat adjustments while the car is standing still.

Always fasten your seat belt snugly. If you don't have seat belts, you should get them.

Lock all the doors from the inside. If an accident occurs, you are safer inside the car. Locking the car doors is additional insurance against being thrown from the car. It doesn't take any extra time, just extra sense.

If you are about to drive a car that is strange to you, or if someone has used your car since you did, be sure to reset the seat and the rearview mirror. In a strange car, check the brakes and steering as soon as you start out. Don't wait until you need them to discover they are faulty.

SEEING IS DECEIVING

Use your eyes. Many drivers don't really see where they are going. They are so intent on the immediate that they ignore the imminent. Professional drivers keep their eyes moving—ahead, behind, to the sides—preparing themselves for the distant problems which, even at slow speeds will be immediate problems in a matter of seconds.

Always look for an out, a place to run. A pro knows that at any time he may have to deliberately swerve off the road in order to avoid a more serious collision. The pro leaves nothing to chance, and so he constantly studies the road ahead, looking for an out. If an emergency arises, the pro's trained reflexes respond immediately.

By training himself to watch the left front wheel of oncoming cars, the pro can anticipate any surprise turns before a car begins to swerve into his lane.

Watch not only the car directly in front, but also the car ahead of the one directly ahead. Slow ups can be spotted sooner, not only allowing you more time to slow down or stop, but also giving the man behind more warning.

A sudden spurt of exhaust smoke from a car parked at the side of the road may mean that the car is about to pull back into traffic. Watch him!

NIGHT DRIVING

Dim the instrument panel lights. The glare is tiring to the eyes and reduces night vision. If you don't know how to dim them, try turning the light switch.

When another car approaches you at night, always watch your right edge of the road to prevent the headlights of the oncoming car from blinding you. Never attempt to guide your car by watching the center stripe or the oncoming headlight.

At night your eyes play tricks. You can see an unexpected object only about half as far as you can see an expected one. Thus, you can see your own driveway much sooner than something you don't expect to see, and the unexpected could be a rock, a log, a box or a person. Slow down!

Studies show that the faster you drive at night, the less far ahead you can see. Actual tests show that a driver doing 20 mph can see and identify objects 80 feet farther away than a driver going 60 mph.

STOPS

Keep your car moving or get it off the road. Never stop your car on the highway except for stop signs or in prescribed stopping areas. Where there are no marked stopping areas, always pull your car completely off the road.

Always come to a complete stop before entering or crossing a through way. Sloppy half-stops at intersections are very often indications of a speed habit. The driver who is reluctant to make the required stops will often hesitate a little too long in making the emergency stops. Experienced drivers eliminate the possibility of such hesitancy by training themselves to be habitual full stop drivers at all intersections requiring a full stop.

Traffic lights or stop signs demand special consideration on the crowded highways of today. Don't wait until you are on top of the stop before putting on your brakes. Use your car sensibly to insure your own safety. Slow down well in front of the stop sign. Pump your brake a few times to alert the driver behind you.



A REAL PRO — One of many General Dynamics "pro" drivers is Edward C. Graham, Convair Dept. 250-5, whose accident-free record is outstanding. He drives about 22,000 miles a year, mostly in city traffic, often hauls Atlas missiles and SLVs.

Plants to Observe July 4th on Monday

General Dynamics people will enjoy another three-day weekend with July 5 set as the legal holiday for the Fourth of July which falls on Sunday this year.

Plants will be closed that Monday except for necessary maintenance and security functions. Shifts will resume work at regular hours on Tuesday.

Holloway to Head Journalism Group

Mal Holloway, administrative assistant in the FW president's office, has been installed as the 1965-66 president of the Fort Worth Chapter of Sigma Delta Chi, professional journalism society.

Holloway had previously served as vice president and as a member of the board of directors.

Safety Standings

Division achieving best record:

Current month: Convair, Pomona, Electronics.

Year to date: (1) Pomona, (2) Convair, (3) Electronics.

Division showing best improvement:

(1) Pomona, (2) Convair, (3) Electro Dynamic.

People Mobility

Inter-Division Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

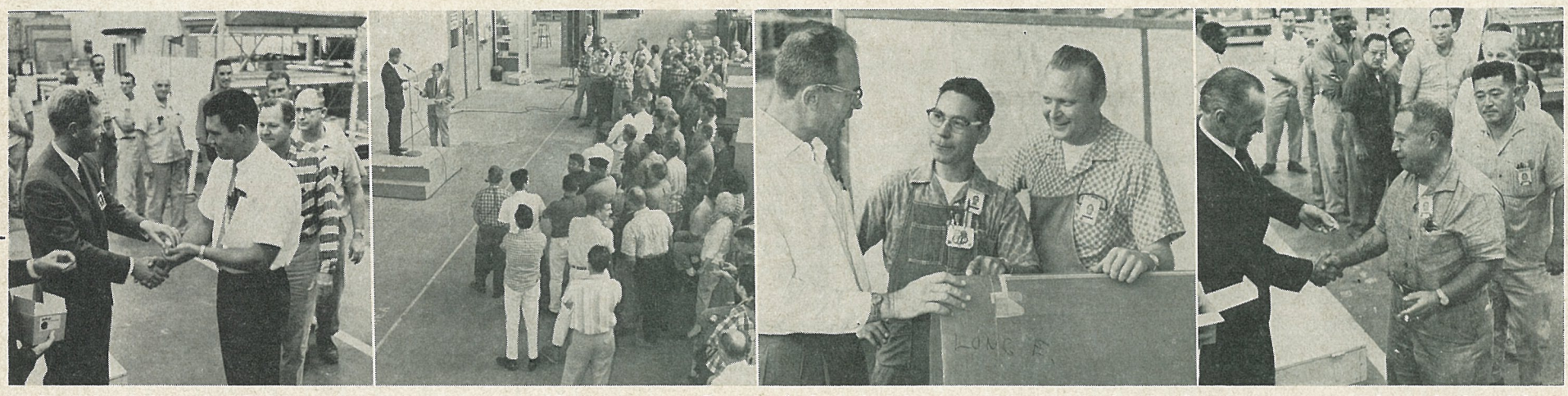
PAUL A. CHRISTENSON (1950) from Convair to Fort Worth (Edwards AFB); **G. A. FARRELL** (1964) from Convair to hydroacoustics, Electronics (Rochester); **OLIVER L. HARRIS** (1956) from Stromberg-Carlson (San Diego) to EDP programmer, Convair; **WILLIAM ARMANN JR.** (1956) from Convair to Fort Worth (Edwards AFB).

EARL E. PATRICK (1957) from Convair to engineering, Electronics (San Diego); **FLOYD R. GLICK** (1949) from Pomona to senior quality control engineer, Convair; **STANLEY R. McSWAIN** (1962) from Convair to Fort Worth as controller; **V. A. CAJAL** (1959) from Stromberg-Carlson to research, Electronics (Rochester); **EDWARD S. JONES** (1955) from Convair to Fort Worth (Edwards AFB).

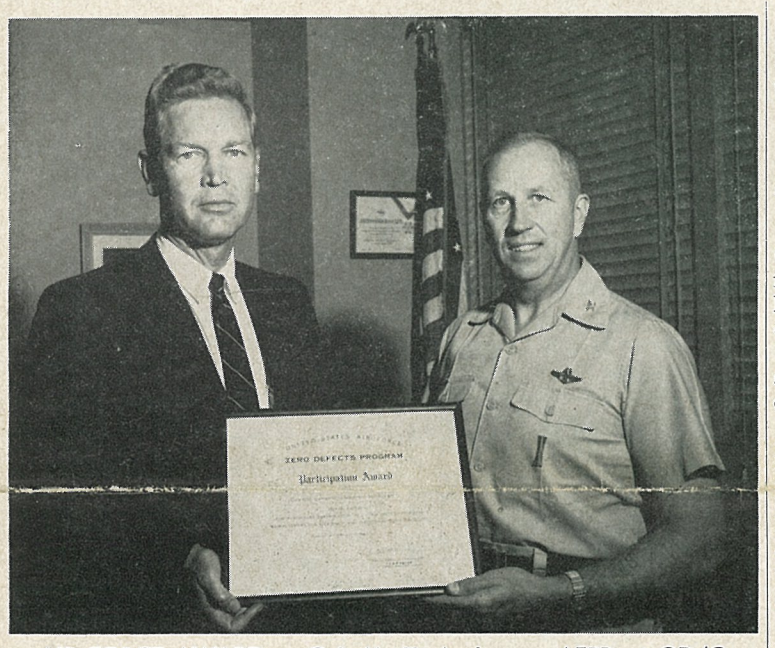
CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 14 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, July 7, 1965



CRAFTSMANSHIP CASCADE — New awards were in evidence at many Convair locations recently in recognition of Do Good Work successes. At left, James R. Dempsey, Convair president, gives silver lapel pin to J. T. Treat and other first-shift members of Dept. 454 at Kearny Mesa who won third monthly award. Left center: E. D. Robinson, foreman, accepts May Craftsmanship award from Dempsey on behalf of Dept. 019-0, which also won February award in competition at Lindbergh Field plant. Right center: Carlos Martinez and Keith Gaeth of Dept. 019 inform their leadman, Virgil Breit, that Do Good Work means "doing the best job we can in the least possible time." Far right: W. D. Reed, production engineering manager, gives silver lapel pins to Ygnacio Ledesma and other second-shift members of Dept. 454 (Kearny Mesa) recognizing their third Craftsmanship win. Dempsey earlier told first-shift members that during May only six parts were rejected out of 799 submitted for inspection! Both May winners had won first Craftsmanship awards given at their respective plants.



AIR FORCE AWARD — Col. M. K. Andresen, AFPR at GD/Convair, presents Air Force "Participation in Zero Defects Program" award to J. R. Dempsey, Convair president. Award honors Convair employes for voluntary participation in Do Good Work program which strives for efficiency and perfection through people.

AF Participation Award Lauds 'Do Good Work'

The Air Force has presented its Participation Award to Convair in recognition of Convair's Do Good Work program.

This is the second time in recent weeks that Convair has received this type of recognition.

Convair President James R. Dempsey also received a plaque from G. E. Fouch, Deputy Assistant Secretary of Defense, acknowledging the contributions of Convair in pioneering the Zero Defects type of program.

Convair was one of the first to recognize that strengthening the craftsman's desire for perfection in his work would result in higher quality products at less cost to the customer.

Salvage Schedule For July Arranged

Convair salvage yard schedule at Kearny Mesa and Lindbergh Field plants for the next four weeks is:

Kearny Mesa — July 10, 24.

Lindbergh Field — July 17, 31.

Dept. 019, 454 Win Craftsmen Award in May

Winning departments of the Craftsmen of the Month award for May were Dept. 019 at the Lindbergh Field plant, and Dept. 454 at Kearny Mesa.

E. D. Robinson accepted the award for Dept. 019. W. R. Walker accepted for Dept. 454.

This was the third win for Dept. 454 and the second for Dept. 019. Dept. 454 members received silver "C" lapel pins; Dept. 019 members received certificates of recognition which were mailed to their home addresses.

James R. Dempsey, Convair president, spoke to first-shift

(Continued on Page 2)

ID Badges Needed At Recreation Area

Weekend visitors to the Convair Recreation Area at Kearny Mesa now must present identification that they are connected with General Dynamics for admittance to the facilities. They are reserved solely for the use and enjoyment of GD people.

A guard is now stationed at the entrance on Saturdays and Sundays from 9 a.m. to 6 p.m. to check credentials.

GD employes will be required to show ID badges or payroll check stubs; retired people, their CRA courtesy cards. Terminated people will be admitted for six months following layoff by presenting check stubs or other proof of affiliation with the company.

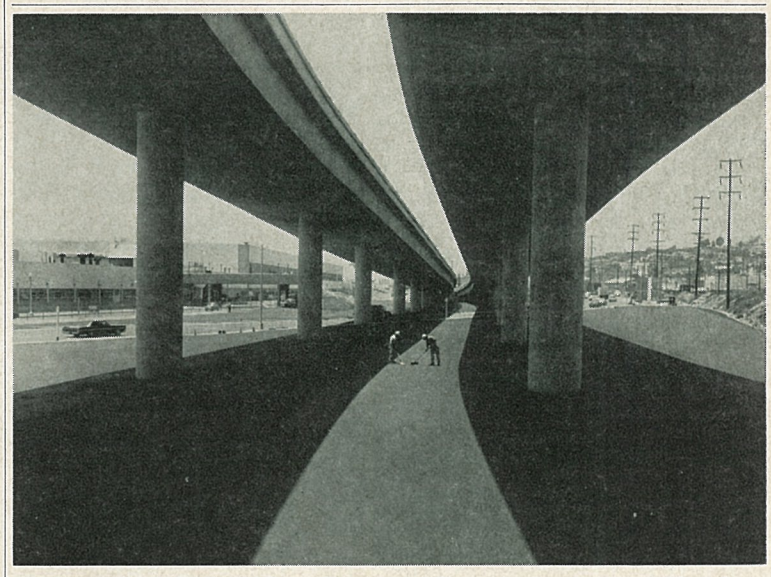
Mfg. of Orbiting Vehicles Okayed

Among recent contracts awarded to GD/Convair are the $2.5 million agreement for continued work on Complex 576A, Pad 3 at Vandenberg AFB, and a $2.3 million contract for the manufacture of two OV1 orbiting vehicles.

Pad 3 is being reactivated to launch the Series E and F missiles recently removed from silos. The missiles will be used in the Air Force's advanced ballistic reentry systems program. Work on the pad is expected to be complete between March 15 and April 1, 1966.

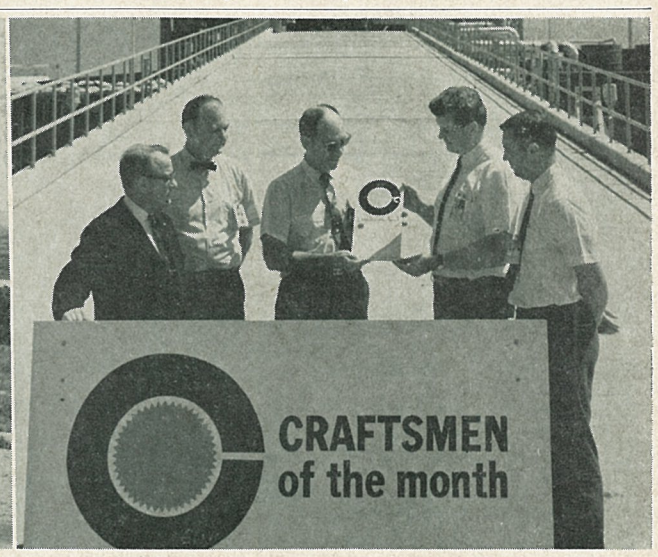
The OV1 orbiting vehicle is designed to place experimental payloads in orbit by taking advantage of the excess payload capability in Atlas space booster launches by "hitch-hiking" into orbit.

The OV1 was officially selected by the Air Force Office of Aerospace Research to be the first in a series of efficient, economical orbiting vehicles.



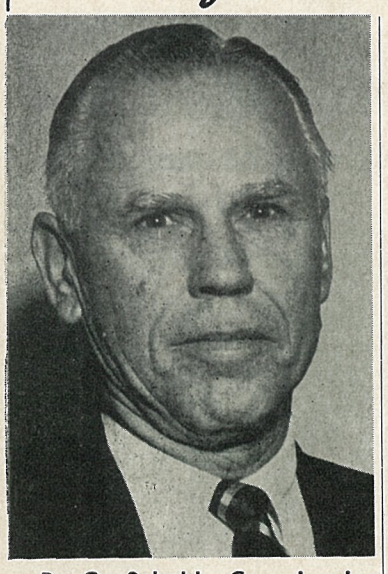
EXPANDED PARKING — Two new Convair employe parking lots, recently completed under Crosstown Freeway in front of Lindbergh Field plant, are scheduled to open for use in mid-July. Drivers will enter lots going north on Washington St. exit and going west on Sassafras. They will reach plant by pedestrian overpass across Washington St. exit and via plant Overpass 2.





AT VAFB AND CAPE — At left, Craftsmen of Point Arguello Launch Complex II, pose with Vandenberg AFB Craftsmen of Month award they won. F. M. "Maurie" Anderson, site manager, left, receives plaque from W. J. Maloney, space launch vehicles and special projects manager. Atlas silhouettes represent successful launches from site. In photo at right, Dan Sarokon, test conductor, accepts award on behalf of Atlas/Centaur launch crew at Complex 36B, Cape Kennedy, from Elwood Bryant, vice president and director of operations. Present were B. G. MacNabb, Convair manager of operations at ETR; John D. Gossett, Centaur operations manager for National Aeronautics and Space Administration's Goddard Launch Operations; and Roger Lynch, Convair manager for Centaur operations.

Log Book Entries



R. C. Sebold, Convair vice president-research, development and engineering, received 35-year service pin recently.

NOTICE!

Effective with this issue (July 7), GD/NEWS Convair edition is discontinuing publishing photos of 25- and 30-year employes, but will continue with 35-year veterans.

The move was made with reluctance, but no other alternative is practicable because available space simply precludes carrying the mounting numbers of 25 and 30-year men. GD/NEWS will continue to carry names of pin recipients, however.

Technical Papers

CONVAIR

BOWERS—J. M., Dept. 140-02. "The Inspector's Role in Today's Quality Control," American Society for Quality Control, 1965 National Convention, Los Angeles, Calif., May 3.

CLAY—J. P., Dept. 528-1. "Carbon Dioxide Frost as Insulation for Hypersonic Spacecraft," National Spring Meeting, Society of Aerospace Material & Processes Engineers, San Francisco, Calif., May 25-28.

GREGG—L. T., Dept. 591-1. "A Logical Model of Logical Man," IEEE/Sixth National Symposium on Human Factors in Electronics, Boston, Mass., May 6-8.

HERBERT—Don, Dept. 547-5. "R. F. Deviation Measurement in the Presence of a Frequency Division Multiplier of IRIG Constant Bandwidth Frequencies," IEEE/17th National Aerospace Electronics Conference, Dayton, Ohio, May 10-12.

HUBER—R. E., Dept. 528-3. "Simplified Analysis of a Gas-Powered Servo Actuator," SAE/Aerospace Fluid Power Systems and Equipment Conference, Los Angeles, May 18-20.

ROSCISZEWSKI—J., Dept. 596-0. "Numerical Method of Integration of the Boundary Layer Equations," Institute for Fluid Dynamics and Applied Mathematics—Symposium on the Numerical Solution of Partial Differential Equations, University of Maryland, May 3-8.

SLYSH—Paul, Dept. 549-8. "Ratio Spaceborne Automatic Structural Assembly," AF Aeropropulsion Lab/2nd Aerospace Expandable Structures Conference, Minneapolis, Minn., May 25-27.

STEINMAN—J. B., Dept. 572-1. "The Electron Microscope in Metallurgical Failure Analysis," Electron Microscope Society of America, California Section, Berkeley, Calif., May 14-15.

WOLF—R. L., Dept. 592-0. "Zero 'G' Simulation," Space & Flight Equipment Association, Los Angeles, Calif., May 25.

* * *

Following papers were presented at the Society of Aeronautical Weight Engineers, Denver, Colo., May 17-19:

JONES—R. G., Dept. 513-1. "A Computer Program to Calculate Mass Properties Using the Shape Code/Override Method."

LUCERO—L., Dept. 588-1. "Electronic Load Cells, Their Basic Component—Resistance Strain Gauges."

NEVINGER—D. O., Dept. 588-2. "Introduction to and Remarks About the Inertia Panel."

TRELEASE—R. H., Dept. 588-3. "Development of Preliminary Design Synthesis Techniques for Re-Entry Vehicles."

Invention Disclosures

CONVAIR

ASHBY—D. E. T. F., B. R. HAYWORTH, T. J. GOODING, and A. V. LARSON, Dept. 596-0. Pulsed Arc Gun.

DOHM—F. L., Dept. 588-1. Self-Countersinking Head.

GOOCH—R. G. and R. E. LELAND, Dept. 511-1. Leg Support.

LELAND—R. E., Dept. 511-1. Improved Campster-Trailer.

MACHADO—F. Jr., R. E. MOORE, E. R. WOODS, Dept. 540-0. Matrix Switch.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Plant 71 (Kearny Mesa) Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Plant 1, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Service Emblems

CONVAIR

Service emblems due July 1 through July 15.

Twenty-five-year: Dept. 024-0, F. A. Yarick; Dept. 031-0, A. O. Camp, F. J. Cech, W. M. Clapp; Dept. 041-0, H. W. Arnold, C. R. Mansfield, G. W. Marx Jr., J. D. Volkov Jr.; Dept 143-1, R. L. Stanberry; Dept. 147-0, R. H. Nicholson; Dept. 170-2, K. D. Saum; Dept. 250-1, A. H. Damarus; Dept. 251-1, D. H. Cunningham; Dept. 420-8, C. F. Boyle; Dept. 522-8, R. C. Pasek; Dept. 572-3, P. J. Ferrara; Dept. 587-1, G. F. Foelsch; Dept. 596-0, L. C. Wilson; Dept. 642-2, R. M. Williams Jr.; Dept. 696-2, F. B. Lubo; Dept. 756-0, R. K. Wharton; Dept. 956-0, T. L. Cash; Dept. 978-3, H. M. Jones.

Twenty-year: Dept. 143-5, W. M. Foster; Dept. 493-0, R. A. Given; Dept. 532-2, R. B. Shead; Dept. 732-0, W. L. Lawson; Dept. 961-4, K. B. Reid.

Fifteen-year: Dept. 002-0, L. W. Schmitz Jr.; Dept. 015-0, J. B. Denton, A. K. McConnell; Dept. 031-0, W. B. House, I. E. Whitby; Dept. 057-0, D. E. Stouffer; Dept. 143-1, Maryann A. McColloch; Dept. 146-5, W. L. Curtis; Dept. 147-3, J. P. Westler; Dept. 400-7, T. P. Emery; Dept. 401-7, Dara K. Adams; Dept. 493-6, D. E. Evanson; Dept. 545-3, J. A. DeCosta; Dept. 576-1, O. J. Bazoon Jr., W. A. Sanders.

Dept. 578-3, J. J. Weckerly; Dept. 589-2, W. E. Knapton; Dept. 641-0, L. J. Braun; Dept. 693-3, J. T. Jourdan; Dept. 756-0, O. W. Potter; Dept. 759-0, E. E. Farmer; Dept. 761-0, F. O. Fernandez, D. L. Turner; Dept. 780-3, W. C. Smith; Dept. 819-0, U. J. Makela; Dept. 821-2, A. A. Broderick Jr.; Dept. 832-1, Joseph Catalino; Dept. 833-2, C. H. Huss; Dept. 835, H. S. Alderman Jr., E. A. Perryman.

Ten-year: Dept. 015-0, W. A. Warren; Dept. 024-0, H. R. Morrow; Dept. 130, J. A. Croft, R. L. Oakley; Dept. 143, J. S. Adams, G. H. Zoellner; Dept. 250-2, D. L. Vockrody; Dept. 491-0, N. D. Baird, H. L. Wilson; Dept. 531-1, W. E. Evans Jr.; Dept. 544-5, F. A. Wulf; Dept. 545-3, Clifford Headlong; Dept. 552-3, W. R. Beverly; Dept. 553-3, C. R. Tuttle.

Dept. 576, D. L. Fagan, J. E. Huys; Dept. 578-4, J. L. Parr, F. M. Urban; Dept. 581-1, P. J. O'Leary; Dept. 588-2, H. G. Mileur; Dept. 643-0, J. R. Holter Jr; Dept 731-0, N. E. Cossano; Dept. 733-0, Bernice L. Hughes; Dept. 744-0, R. L. Chaney; Dept. 758-0, D. G. Jackson; Dept. 816-1, F. L. Wagner; Dept. 833-2, L. L. Jordan; Dept. 955-0, Julie S. Fejeran; Dept. 964-4, R. M. Mitchell; Dept. 967, F. I. Backus Jr., J. S. Luster; Dept. 978, R. E. Bradberry, J. G. Maxson; Dept. 988-2, J. R. Cook.

ELECTRONICS

Twenty-five-year: Dept 7083, R. H. McManus.

Twenty-year: Dept. 4073, Wilma M. Stevens.

Ten-year: Dept. 6854, H. B. Jenkins; Dept. 6858, R. L. Olson.

STROMBERG-CARLSON

Fifteen-year: Dept. 8201, Margaret G. Stewart.

Ten-year: Dept. 8683, G. E. Johnson.

Awards

CONVAIR

Employe Suggestion Awards for reporting periods ending June 16 and June 23.

Dept. 6, D. F. Dijoseph and A. J. Nybo, joint award, $35.75 each; Dept. 14-4, M. M. Wood, $120.03 (final payment); Dept. 27-6, L. F. Anderson and Gordon Olcott, joint award, $124.72 each (final payment); Dept. 102, R. C. Beezley, $44.40; Lawrence Neal, $74.10.

Dept. 116, E. O. Barnes, $30.30; Dept. 119, C. H. Fenstermacher, $100 (partial payment); Dept. 122, F. H. Cooey, $100 (partial payment); Dept. 125, R. T. Ferrez Jr., $29.60; Dept. 128, V. C. Breit, $83.70 (final payment); Dept. 130, F. M. Morris, $11.10.

Dept. 141, J. Caldwell and G. Hasti, joint award, $8.45 each; L. E. Jolley, $10; Dept. 142, G. A. Senn, $114.80; Dept. 143, Peter Filacio, $146.80 (final payment); D. J. Melson, $36.40; R. R. Reekers, $79.40; Dept. 250, R. C. Frajman, $10; G. Hartwig, $10; R. F. Mutsch and L. J. Wood, joint award, $22.75 each; Larry Price, $10.

Dept. 403, L. M. Whitney, $47.60; Dept. 405, R. L. Vincellette, $100 (partial payment); Dept. 410, J. B. Murphy, $100 (partial payment); Dept. 460, A. J. Danish, $100 (partial payment); Dept. 547, P. J. Michelich, $130.80; Dept. 644, J. R. Kintzer, $44.60; K. S. Peters, two awards, $10 and $250 (partial payment); C. L. Smith, $100 (partial payment).

Dept. 682, D. E. Neville, $493.30; Dept. 733, J. B. McGarity and J. H. Metzgar, joint award, $7.15 each; T. O. Morgan, $10; R. E. Reeves, $67.30; Dept. 756, J. W. Reynolds and G. R. Shirey, joint award, $90.50 each; Dept. 758, C. J. Haide, $61.80.

Dept. 759, N. B. Byrd and G. D. Lundquist, joint award, $50 each (partial payment); Dept. 763, C. W. Neal, $29.80; W. J. Williams, $10; Dept. 780, J. M. Coleman, $10; R. M. Cooper, $10; Dept. 821, R. K. Johnson, $115.70.

Dept. 833, C. G. Knight Jr., $33.90; Dept. 957, R. Torrence, $10; Dept. 972, K. Cash and J. A. Contast, joint award, $5 each; H. J. Oakes, $27.60; C. M. Ray, $10; Dept. 973, T. G. Saint Sing Jr., $10; I. S. Smith, $68.

Cost Improvement Proposal approved during the same periods.

Dept. 662, J. L. Kronert.

Personals

CONVAIR

Thanks to our many friends at Convair for the cards, letters, and donations in memory of our wife and mother, Dorothy R. Meyer, who passed away June 15.

Hubert E. Meyer (formerly Dept. 421) and sons.

* * *

We wish to thank our Convair friends for the flowers and expressions of sympathy at the death of our daughter, Bonnie Ruth Larson.

Mr. and Mrs. Carl Larson, (Dept. 250-3).

CAPE KENNEDY

I wish to express my thanks to the employes of GD/Convair for their kind and generous response to my request for blood donors for my open heart surgery. It is a wonderful feeling to know that there are such fine people who responded so generously.

Jean Tobin.

Save Materials—Don't Throw Your Job Away

Depts. 019, 454 Win Craftsmen Award in May

(Continued from Page 1)

members of both departments. He told Dept. 019 craftsmen that their record of less than five errors per 100 work hours was a 35 per cent improvement over their previous winning month.

Typical of the good workmen in the department are Carlos V. Martinez and Keith Gaeth, plastics fabricators on C-141 leading edges, who, in the words of their leadman, Virgil Breit, are "true craftsmen."

Martinez said, "When I'm working, all I think about is turning out the best possible part in the least possible time."

Gaeth agreed that "doing good work" is his goal at all times and added, "Doing my job right gives me a great deal of personal satisfaction, and besides, I feel that the better I do my work, the more secure my job will be."

Dempsey told the Dept. 454 craftsmen that their record of only six rejections out of 799 parts submitted resulted in a quality index of 113.2.

Sam White and W. E. Haynes talked about how they felt about winning the silver "C" pin.

White said, "This pin means I've done my best for two men, my boss and the customer."

Haynes linked the silver "C" to the Craftsmanship program. He said, "The program makes you think, it makes you remember. It makes you try a little harder."

Chief of Placement Named For Convair

Robert M. Smith, until November, 1963, the chief of professional placement and personnel at the former Astronautics division, has resumed that position with Convair.



R. M. Smith

Smith, with a degree in economics and a major in personnel management, has 12 years' experience in industrial relations. He will be responsible for recruiting professional personnel, college relations, recruitment advertising, and manpower capability programs.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, Aug. 2, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, July 27, 8 a.m., Bldg. 14 Auditorium; second-shift, Tuesday, July 27, 4:30 p.m., Bldg. 14, Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 7-8 a.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa. Group 2: July 12, 13, 14, 15; Group 3: July 19, 20, 21, 22.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS — Wayne Turner, ext. 491, Lindbergh Field. 16 hours; every Tuesday, 1:30-3:30 p.m., for 8 weeks; Room 6, Bldg. 14, Lindbergh Field.

ADVANCED AERODYNAMIC HEATING AT HYPERSONIC SPEEDS—Prof. Eugene Stolarik (University of Minnesota). For information call R. E. Tatro, ext. 2462, Kearny Mesa. Ten hours, Tuesdays and Thursdays, 9-10 a.m., July 1 through Aug. 5. Room 2, Bldg. 17, Kearny Mesa. Course material includes practical engineering approaches to assist preliminary design activity.

AFTER HOURS TRAINING IN-PLANT

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I)—Dennis Suchecki, ext. 1931, Kearny Mesa. Sixty-five hours, Tuesdays, 5:30-8 p.m.; July 20-Jan. 25, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For advanced registration, call Laura, ext. 1931, Kearny Mesa.

Retirements

BELL—Robert G., Dept. 401. Seniority date Dec. 8, 1941, retired June 14.

BURKHARDT—James A., Dept. 960-2. Seniority date Sept. 20, 1955, retired May 8.

HOLST—Harold M., Dept. 25-5. Seniority date April 20, 1942, retired June 11.

JOY—C. D., Dept. 170-2. Seniority date Feb. 11, 1949, retired June 14.

KIRSCH—Alois, Dept. 401-5. Seniority date Oct. 10, 1939, retired June 4.

LUTHER—Ervin R., Dept. 972. Seniority date April 6, 1942, retired June 11.

MULLINS—Carl B., Dept. 486-2. Seniority date Oct. 19, 1950, retired April 9.

WARREN—Howard G., Dept. 976-3. Seniority date Oct. 10, 1955, retired May 28.



1,000 DAYS — Participants in brief ceremonies marking 1,000 days without disabling injury at Sycamore Canyon Test Site are (from left) J. W. Garrison, Convair chief safety engineer; W. F. Chana, site manager; H. W. Gillespie, guard chief; R. E. Harper, former safety committee chairman; and J. N. Guess, present safety committee chairman.

Test Site at Sycamore Canyon Patted on Back For Safety Mark

On June 23, employes at GD/Convair's Sycamore Canyon Test Site passed 1,000 days without a disabling injury.

In a brief ceremony, J. W. Garrison, chief safety engineer, congratulated W. F. Chana, base manager, for the effort required to attain this outstanding record.

"The type of work being done at this site, especially the testing of new propellants, makes this a noteworthy achievement," said Garrison.

Some of the operations conducted at the Sycamore Canyon site include the first firing of the Centaur engines using liquid oxygen and various tests using fluorine, a product which was relatively unknown prior to Convair's tests during the past year.

Nearly $15 Million Savings Achieved in First Quarter

GD/Convair achieved savings of nearly $15 million during the first quarter of 1965 through cost reduction and value control programs. Further actions during the remainder of 1965 are expected to save a total of $40 million.

Although achieved in 1965, these savings will actually accrue during both 1965 and 1966.

J. R. Dempsey, Convair president, said the cost reduction program had achieved savings of $9,663,700 during the first quarter, and that total savings in this program for the year is expected to reach $27,670,000. The value control program achieved savings of $5,323,000 in the first quarter and anticipated year-end savings of $12,439,000.

The two programs touch every portion of the division's activity, Dempsey said, with major saving coming through value control and management improvement.

Fully Equipped Safety Crib Serves Lindbergh Field Plant

Safety crib and safety office at Convair's Lindbergh Field plant are now located in new surroundings in Bldg. 16, former employment building adjacent to Gate 2.

They formerly were located in Bldg. 32.

In its newly-remodeled site, Lindbergh Field's safety crib now stocks the same line of articles carried at Convair's other safety cribs at Kearny Mesa plant and Plant 19, said J. W. Garrison, chief safety engineer.

In addition to the issue of company-provided personal protective devices, cribs offer numerous items for the protection of employes and families at discount prices. These can be purchased either for cash or on a payroll deduction plan.

Safety shoes are carried in a wide range of styles and colors, and prescription safety glasses can be ordered at a substantial saving.

All three cribs now offer safety belts in a choice of nine colors at $2.18 each, including tax, and seat belt retractors at $2 each. Three styles of whiplash protectors are available at $9, $7.65, or $5.60 each, depending upon style. Price includes bar and head rest, but not installation.

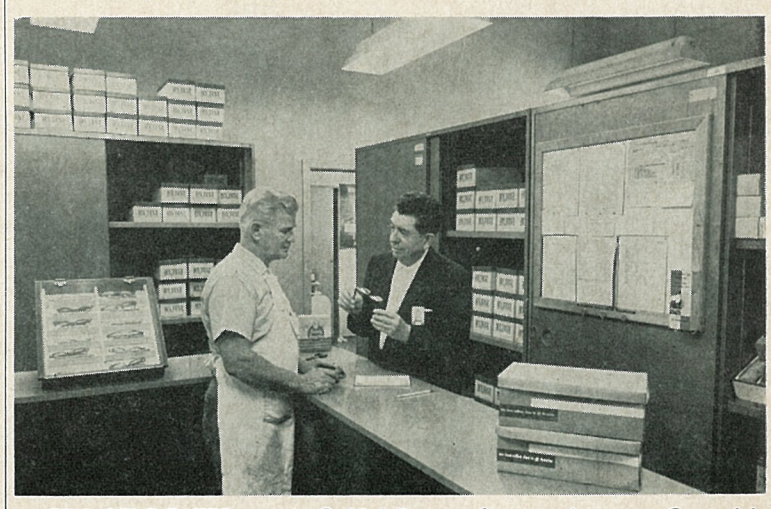
Fire extinguishers for home and car can be obtained at $10.47 or $16.46, with refill.

Crib locations and hours of operation are:

Lindbergh Field, Bldg. 16—Mondays, Wednesdays, Fridays, 8:15-11:30 a.m.

Kearny Mesa, Bldg. 5—Mondays and Fridays, 1-5 p.m.; Tuesdays and Thursdays, 9 a.m.-? p.m., 4-5 p.m.; Wednesdays, 3-5 p.m.

Plant 19. Bldg. 28—Wednesdays, 12:30-2:30 p.m.



CRIB RELOCATED — M. C. Val Dez, safety engineer at Convair's Lindbergh Field plant, sells safety glasses to A. A. Lockwood, Dept. 015, in new, modern safety crib now located for employes' convenience in center section of Bldg. 16.

GD/FW Man Recalls Visit to B-24 Crashed in African Desert

A new employe joined GD/Fort Worth's ranks recently and brought with him valuable family "heirlooms."

The newcomer is Joe Kunz, Dept. 180-2. The heirlooms are parts of "Lady Be Good," ill-fated B-24 which disappeared in North Africa in World War II and was found in 1959.

Kunz, who retired as an Army officer recently after 22 years of service, was stationed at Wheelus AFB in Libya when the Liberator was discovered by an oil exploration crew.

He flew to the area in a light observation plane to check landing conditions for heavier aircraft.

"The sand was like concrete in any direction," Kunz said. "The airplane had been almost perfectly preserved for 16 years in the dry desert atmosphere."

Kunz took a couple of souvenirs—an engine cowling and bomb shackles—which led to the identity of "Lady Be Good."

The cowling was marked "B-24 1096," Convair's sequence number. A photo of the tail section by Kunz bore a still-legible "24301," the Air Force serial number. The two jibed.

GD/FW customer acceptance confirmed that the B-24 was built at Convair, probably late in 1942. It was then sent to GD/FW Feb. 4, 1943 for modification. Air Force accepted it Feb. 15.

What happened after that is history.

"Lady Be Good" joined the 376th Bomb Group at Soluch, Libya. On April 4, 1943, a fledgling crew made its first combat mission in the Liberator—a high-level, night bomb run on Naples.

The crew allegedly dropped bombs near target and, separated from other planes in the formation, headed home. They checked in half way across the Mediterranean and were never heard from again.

Quite by accident, the oil exploration crew spotted the crashed plane some 16 years later about 432 miles south of its destination. It is one of the most desolate regions in the world.

A crewman's diary, parachute fragments, and other remnants told the story.

Thinking they were over water, the crew bailed out. Eight of the nine crewmen assembled on the desert floor. Not knowing their plane had crashed only miles away, they started walking toward the ocean.

They trudged nearly 100 miles in nine days, virtually without food and rationed to a thimbleful of water a day. Temperatures soared to 135 degrees in the day, dropped to freezing at night. Remains of five crewmen were found; the other remains were presumably lost in the shifting sand dunes.

"Had the crew gone toward the plane, they would have found rations and water—and a working radio with which they could have sent for help," Kunz said.

When Kunz landed his light plane at the spot 16 years later, he found chewing gum and bits of rations tucked away in corners of the plane. Oyxgen bottles were properly arrayed in their racks. Water cans had not been emptied. Coffee, probably made the morning of April 4, 1943, was still "drinkable."

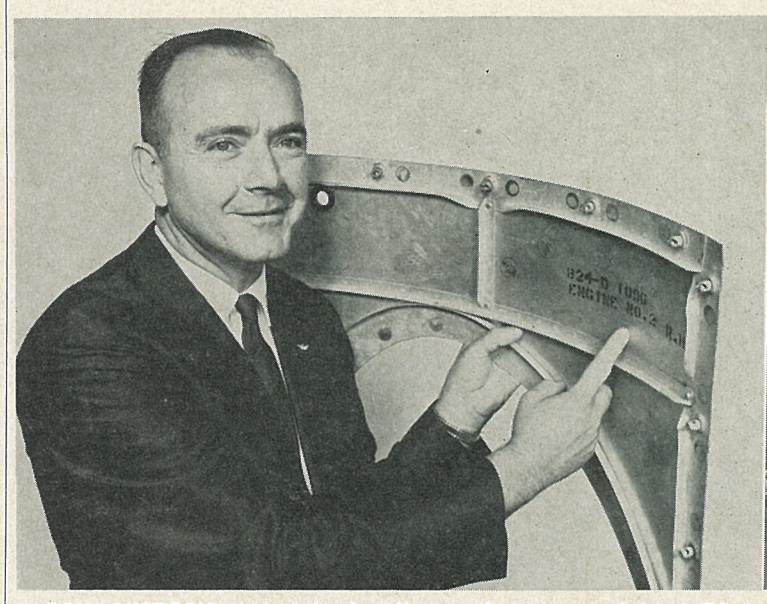
"The engines were in good shape," Kunz said, "and machine guns worked."

Kunz described the area as "so desolate that even nomadic tribes avoid it."

He ought to know, for Kunz is somewhat of an expert on North African topography. He fought in North Africa in 1943—and later Italy—with the famed 34th Infantry Division, surviving such battles as Kasserine Pass and Hill 609. He earned the Silver Star, Bronze Star, Purple Heart, and a dozen other citations.

Kunz earned his wings in 1951. In 1959, by coincidence, he found himself back in North Africa as flight and maintenance officer for an Army unit stationed a relatively short distance from World War II battle grounds.

Ex-infantryman Kunz has since logged about 3,000 flight hours—1,000 in various types of helicopters, 2,000 in multi-engine planes.





GRIM HISTORY — At left, Joe Kunz, who recently joined GD/Fort Worth, displays wing cowling he took from ill-fated B-24 which disappeared in 1943 and was not found until 1959. As an Army officer, Kunz visited scene to ascertain if it was safe for large aircraft to land on the hard Libyan desert. Kunz is in center of group at right.

Data Handling Technique Will Help Industry

Company members of the military-sponsored Interservice Data Exchange Program (IDEP) will be saving thousands of dollars a year when a new data handling technique developed by Convair's IDEP coordinator, L. G. Priest, is implemented.

Priest, chairman of IDEP's information storage and retrieval committee, has evolved a completely new concept of filing, indexing, and retrieving the vast amount of data exchanged between contractors on qualification of vendor-purchased parts and materials.

Priest has proved out savings of around $200,000 a year for the 150 IDEP participating members by using microfilm rolls in place of the presently-used card-mounted microfilm strips. This would save each company at least $1,000 annually in filing time alone, he explained.

The new data handling system is but one phase in the overall improvement of the entire IDEP program, now being effected by the Contractor Advisory Board. Priest is a charter member of the board, a group of users' representatives elected by industry members to direct IDEP activities.

Both Convair and the former Astronautics divisions have been contributing IDEP members with Astronautics probably the largest supporter during the first couple of years of the program's existence. It furnished vast amounts of test data on purchased items going into the Atlas systems.

Army Awards GD/E Contract

The U. S. Army Electronics Command has announced award of a $44,977,000 contract to Electronics division of General Dynamics for design and fabrication of a major quantity of digital subscriber terminals as part of the AUTODIN System.

AUTODIN (Automatic Digital Network) is a world-wide digital communication system being implemented by the Army Electronics Command, with information-handling capability extended to all branches of the armed forces.

Engineering and production will be carried on at Rochester headquarters plant of the division.

Atlas-Boosted Craft Near 'Fly-by' of Mars

The Atlas-boosted Mariner IV spacecraft will end its 325 million mile trip to Mars on July 14. During the "fly-by" of Mars, the spacecraft will have approximately 20 minutes to photograph the planet.

Atlas 288-D launched Mariner IV on its epic journey Nov. 28, 1964.

Fatigue Technique Applied to Wheels

A preliminary study contract has been awarded Convair by the Air Force to see if the Smith method of predicting fatigue life of metallic structures, developed by the division's fatigue specialist, C. R. Smith, can be applied to aircraft wheels.

During the next six months Smith will investigate the feasibility of the new application of his prediction method and spend time at Ogden Air Materiel Area's Hill AFB, Utah, contracting agency, to instruct in fatigue inspection.

NATO Research Group Hears Pomona Paper

J. H. Rizley, GD/Pomona materials research and process engineering section head, presented a paper July 2 in Paris to the North Atlantic Treaty Organization's advisory group for aeronautical research and development.

Rizley was invited by Dr. Hugh L. Dryden, deputy administrator of NASA, to give the paper entitled "A Closed Loop System for Mechanical Testing of Metals."

SOCIETY APPOINTS POMONA SCIENTIST

Dr. K. J. Kronenberg, Pomona division staff scientist, has been appointed to the steering committee for the newly-formed Southwest Thin Film Group of the American Vacuum Society. The steering committee, with representatives from universities and industry, has responsibility for organization and programming of the new area group.

A "Shocker"

Electric Means of Repelling Shark Attack Under Study

Dr. Eugene Agalides of GD/Electronics at Rochester hopes some day to discover a single electric wave form to repel a shark attack.

His effort is included in a number of experiments under U. S. Navy research contracts involving various species of fresh and salt water fish. The salt water fish are kept alive in the plant laboratory in a special substitute for sea water. It is a refinement of an "instant ocean" formula used by the Cleveland Aquarium. In addition to chemicals, Dr. Agalides uses an oxygen scrubbing filter and an ozonizer to kill bacteria.

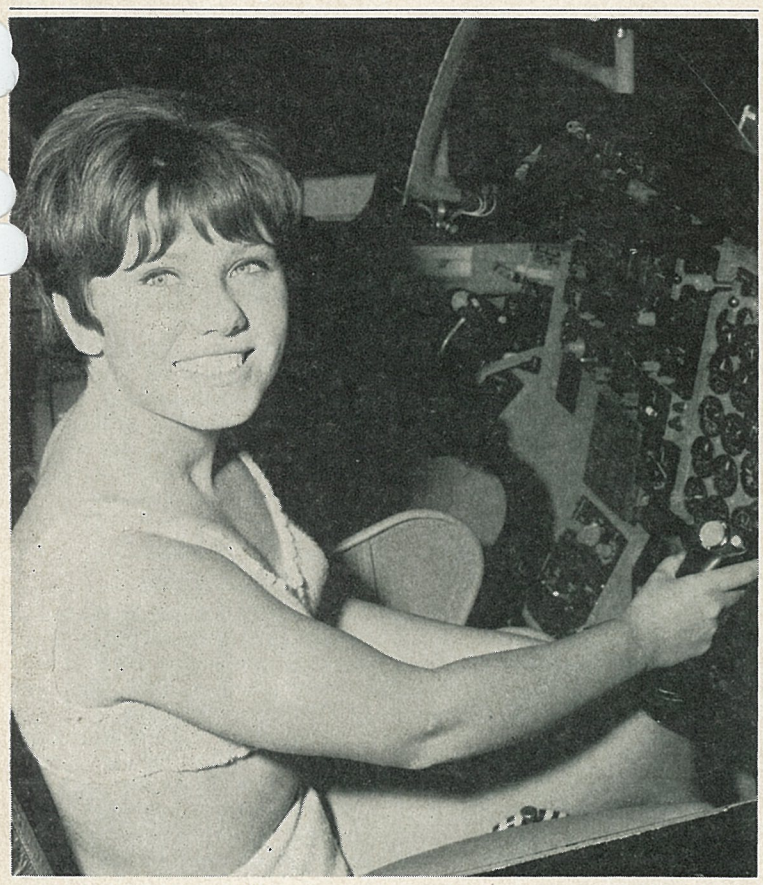
Imitation sea water has been a problem for maritime biologists and certain types of sharks have never been kept alive for extended periods of time out of their natural environment. While Dr. Agalides has not yet discovered a way to keep all shark species alive in an aquarium, his method has helped him to keep fresh water fish like the electric eel.

Dr. Agalides is currently experimenting with lemon sharks. He records electrical impulses the shark emits when confronted with either a known repellant or an appetite inducer and hopes to eventually obtain a corresponding electrical wave form that could be introduced into the water in case of attack.

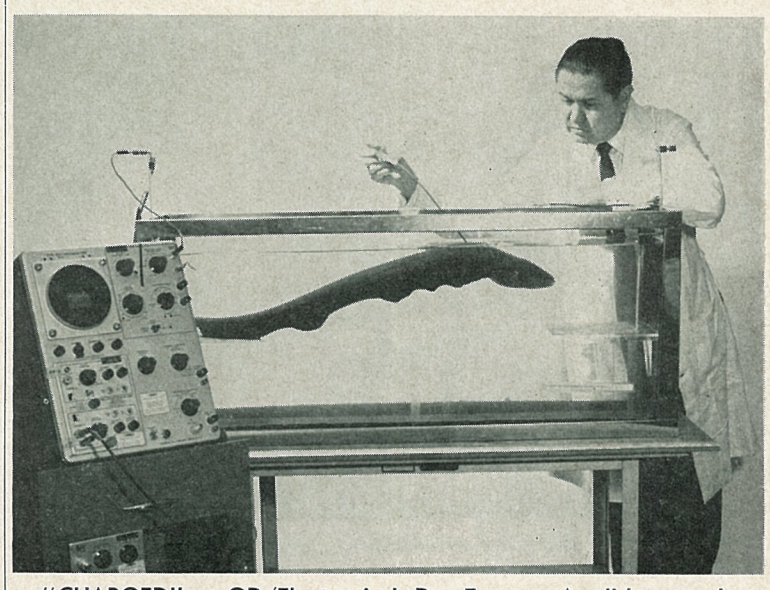
"The problem here is that a wave form common to all species of sharks must be found and it also must be one that will be effective under various sea conditions," Dr. Agalides said.

Another purpose of the experiments involves the shark circulatory system. Unlike the four-chamber human heart, a shark's heart has three chambers. Dr. Agalides has been performing phonocardiographies on the sharks to discover more about the operation of this type heart.

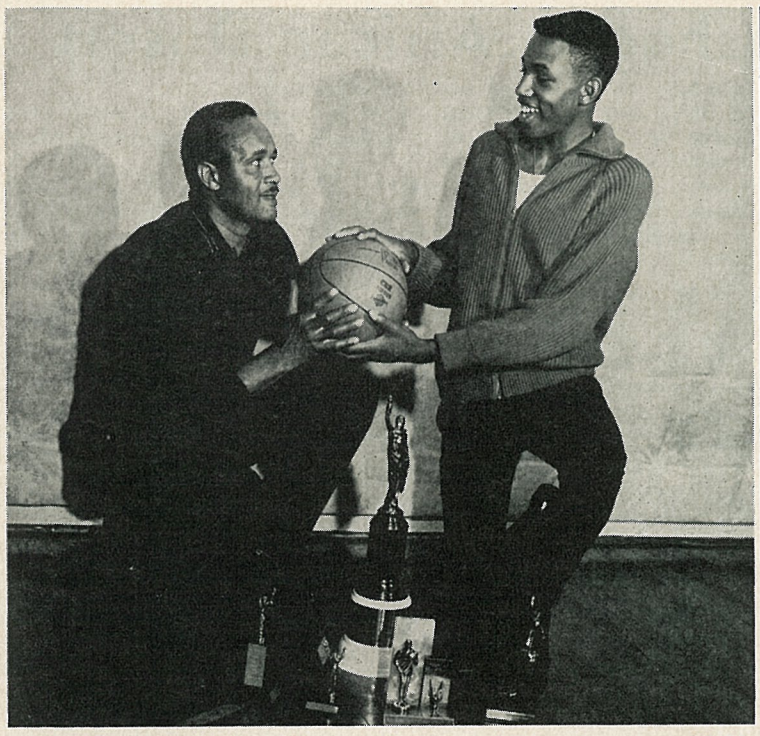
Dr. Agalides has written and published over 15 papers on his findings with electric fish. He has kept over 20 species at various times in the laboratory.



BEAUTY — Diane Wood, daughter of Lt. Col. James W. Wood of Air Force F-111 Test Force, is entry in upcoming Miss Edwards AFB beauty contest.



"CHARGED" — GD/Electronics' Dr. Eugene Agalides conducts experiment with one of a number of electric eels in Rochester plant laboratory.



FATHER AND SON — Monroe Nash Sr. of Convair poses with his son whose sportsmanship and conduct earned coveted 1965 YMCA trophy.

Convair Son Chosen From 400 To Receive Sportsman Award

"Sometimes, I think my son put his soul into sports," Monroe Nash of Convair maintenance (Dept. 454-0) mused recently when Monroe Nash Jr., 16, won the 1965 YMCA Frank Galindo Memorial Trophy for sportsmanship, service and spirit.

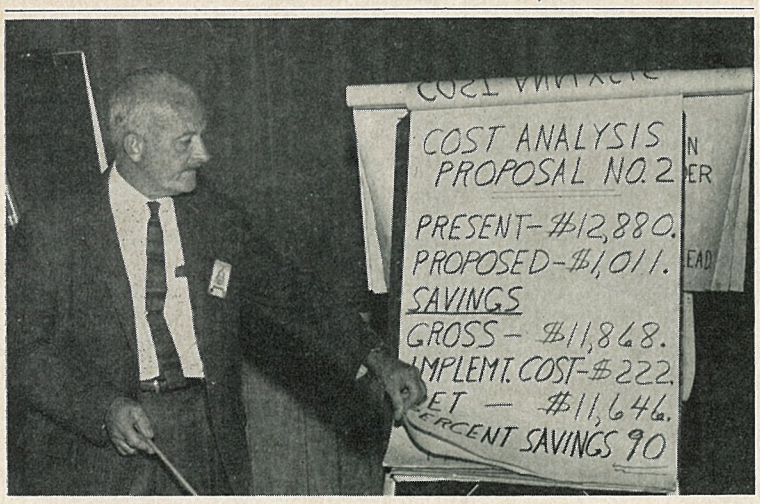
(But the father was forgetting that young Nash must have had his head in his books, too, for he was a better than B plus student at San Diego Memorial Junior High where he was graduated last month.)

The trophy, given by the San Diego YMCA Board of Directors, honors the late Frank Galindo, one of the first leaders in a YMCA Community Club. The clubs are a joint project of sponsors, schools and YMCA and provide activities for junior high boys. Convair Management Club is a $500 per year sponsor.

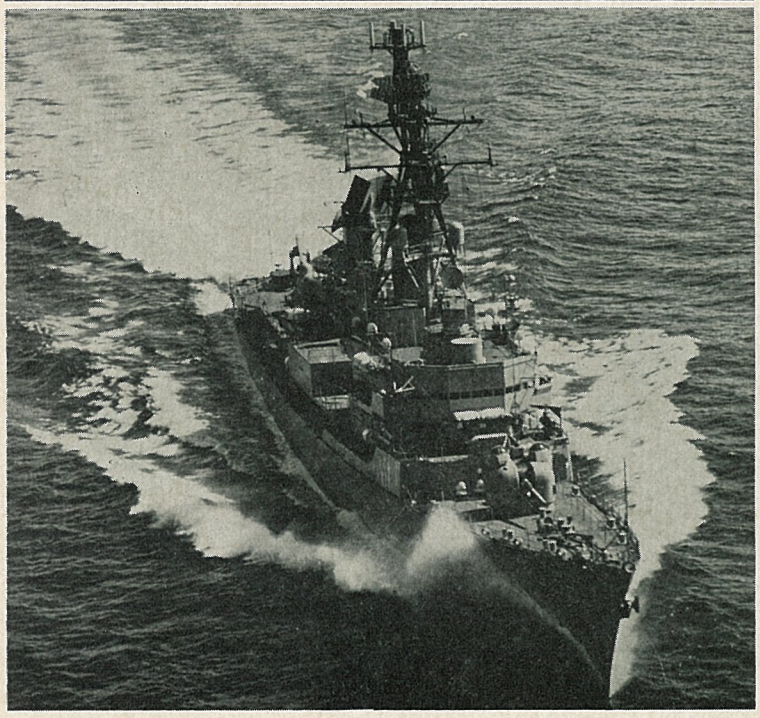
Young Nash was in competition with some 400 other boys. He won the trophy for sportsmanship, ability to command respect for his actions, sense of responsibility, strong sense of justice, and individual achievement.

Although young Nash is a fine athlete, playing both football and basketball, the Galindo Trophy is primarily for conduct.

He was Boy's Federation president in 8th grade and Associated Student Body president in 9th grade. He is a member of an honorary scholastic and citizenship society, was honored by the Freedoms Foundation, and has been chosen for the Red Cross Student Leadership Course.



VE SAVES 90 PCT. — John Dixon, Convair inspection supervisor in Dept. 143-1, explains how his team found way to save possible 90 per cent on manufacture of turbine air bearing exit duct during division's fourth value engineering workshop of 1965.



FULL SPEED AHEAD — Australian guided missile destroyer, HMAS Perth, builds toward full power run during sea trials on Lake Huron. Perth is first of three Australian warships scheduled to be armed with GD/Pomona-built Tartar missiles, produced at GD/Pomona division.

Horne to Talk At Conference

C. F. Horne, GD/Pomona president and chairman of board of Southern California Industry-Education Council, will speak at the ninth annual SCIEC Lake Arrowhead conference July 7-10.

Horne will talk at the opening session July 7 on "Industry Education Comes of Age." Other key speakers at the conference will be Jesse M. Unruh, speaker of the assembly, State of California; Mrs. Sarah Folsom, superintendent of public instruction, State of Arizona; and David H. Paynter, chief, Job Corps Rural Center Program, Office of Economic Opportunity.

John W. Corr of educational services, a resource coordinator for the SCIEC, will attend the conference.

Council membership is made up of top echelon industrial and educational leaders from all phases of Southern California's private industrial sector and executives from primary, secondary, college and university levels.

Military Currency Volume Republished

Raymond S. Toy, long-time Convair coin collector and past president of both the CRA and former ARA Coin Clubs, has released his second book on military currency used during and after World War II, "Mickey Mouse" money, in the parlance of U.S. servicemen.

The second edition of "World War II Allied Military Currency" updates Toy's initial book published in late 1963 which contained descriptions of 309 issues. The 1965 edition, now available at San Diego coin distributors and dealers, adds 130 more issues, their history, description, and in many cases, illustrations.

Toy spent 18 months gathering the material and actual currency from war veterans and collectors throughout the world to make his work as complete as possible.

JAYCEE HONORS SAM DONALDSON

Sam N. Donaldson, Convair senior price estimator in Centaur estimating, has received the perpetual trophy as Outstanding Director for the San Diego Junior Chamber of Commerce. He has served on the board of directors the last year. Donaldson was voted "most outstanding" Jaycee member last year for his activities within the organization.

FATIGUE SPECIALIST ADDRESSES PROFS

Clarence R. Smith of Convair fatigue laboratory spoke on his method of predicting fatigue life of metallic structures to a group of University of California faculty members assigned to the Lawrence Radiation Laboratory, Livermore, Calif., on June 25.

CLUBS TO SPEND MOUNTAIN WEEKEND

Convair trailer clubs, Road Runners and Travelers, will join in a weekend outing July 16-18 at Pine Crest, CRA's mountain resort near Julian. Members may call Ralph East, ext. 1141, Lindbergh Field plant, or Virgil Marshall, ext. 3541, Kearny Mesa, for details.

RESERVE OFFICERS TOUR KEARNY PLANT

Twenty-one U. S. Naval Reserve officers of the Fleet Training Center in San Diego visited Convair's Kearny Mesa plant June 28. Ray T. Blair Jr., assistant to the Convair president, was host. They visited the computer area, engineering test laboratories, life sciences area, the integrated manned systems simulator, and final assembly and checkout.

GD/E MEN ELECTED BY OPTICAL SOCIETY

Gus Tricoles, GD/Electronics design specialist at San Diego, has been elected vice president of the San Diego chapter, Optical Society of America. M. K. Yonemitsu, senior electronics engineer, was named treasurer.

RECORDAK ORDERS SELECTOR UNITS

A contract for production of high-speed document selector units for Recordak Corporation has been awarded Stromberg-Carlson Corp. Data Products Division at San Diego, Carl V. Shannon, Data Products manager, announced.

The contract is for initial production of Recordak's Model IC-4 Image Control Keyboards with options and spare parts. Units are used in information storage and retrieval systems.

The IC-4 can locate a single record from a microfilm magazine containing 2,200 frames in approximately 10 seconds. It provides for automatic multiple search and selection of a maximum of 99,999 specific images on a roll of film without rewinding between searches.

When connected to a microfilm reader, the IC-4 enables an operator to locate automatically a given image frame by simply entering its image number on the keyboard.

Toastmasters Club Seats Donald Bain

Installation of officers of Dynamic Toastmasters Club 457 late last month saw Donald Bain (Dept. 989-3) seated as president.

Other officers for the 1965-66 term are Thomas Lieb (Dept. 696-1), educational vice president; Herb Bickley (Dept. 652-5), administrative vice president; Joe Williamson (Dept. 401-5), secretary-treasurer; and John Edwards (Dept. 586-1), sergeant at arms.

Installing officer was Capt. Bill Edder, USN (ret.), Area 5 governor and a member of Coronado Toastmasters Club 9.

Graduation certificates were presented 26 Convair men who completed the just-concluded Speechcraft Course, sponsored by the Convair Management Club.

Tricoles and Rope Are 'Men of Month'

Gus Tricoles and E. L. Rope received the GD/Electronics Management Club "Man of the Month" award at the June 24 meeting for acceptance of their co-authored technical paper for presentation at a Netherlands symposium this fall.

Tricoles, design specialist, and Rope, test engineer, both in advanced engineering, joined efforts in studies leading to their paper, "Microwave Scattering by Dielectric Slabs and Hollow Wedges." Tricoles will go to Delft, the Netherlands, to deliver the paper at the Symposium on Electromagnetic Wave Theory at the Technological University Delft, Sept. 6-11.

Shortage Reported In Foster Homes

General Dynamics families who have room in their homes for children may contact the San Diego Department of Public Welfare, Children's Foster Homes section, to help relieve critical shortage of homes for children in need of temporary care.

Homes are especially needed for children from 10 to 16 years and for families of two or three children. Board rates of $70 to $80 a month, depending on the age of the child, are paid for full-time care. Medical care is provided. A license is issued without charge.

'Dutch Treat' Lunch Scheduled by Wives

GD/E and Stromberg-Carlson wives who wish to attend a "Dutch treat" summer luncheon July 15 are asked to make reservations by this coming Saturday (July 10).

The luncheon will be held in the Marine Room of the La Jolla Beach and Tennis Club with each lady free to order her own meal. However, the number intending to be present must be reported to the restaurant, said Mrs. John Lombardo, July hostess, who may be reached on 459-1430.

Blood Donors Join Bank's Plan

Nearly 250 donors have signed for Convair's last bloodmobile visit tomorrow (July 8) in CRA Clubhouse, Kearny Mesa, second of two blood collections held to give employes a chance to join San Diego Blood Bank's Blood Service Plan without paying a cash fee.

At the first bloodmobile visit for this purpose, held June 24, 178 pints were collected and credited to donors.

No more blood collections will be held at any Convair plant. Instead, employes may join the Blood Service Plan by giving blood at the San Diego Blood Bank or buying memberships for cash. One pint of blood or $4 pays for a family membership for one year or an individual membership for two years.

Since the plan was announced for all Convair employes last month, the San Diego Blood Bank says that it has been receiving 10 to 15 cash memberships a day from Convair people.

Applications for membership are available at all employe services outlets and at CRA Clubhouse.

Bibby Will Attend Mgt. Club's Dinner

Dause L. Bibby, president of Stromberg-Carlson Corp., will be honored guest at Stromberg-Carlson Data Products Management Club's installation tomorrow night (July 8) at Point Loma Inn.

Ladies will be invited to the dinner meeting which will feature special entertainment as well as installation ceremonies, promised Joe Cyranek, program chairman.

John Patton, NMA San Diego Area director, will install Ray Mattas, president; Don Kirkman, first vice president; Cyranek, second vice president; Tom Bankhead, secretary; Roy Gilmore, treasurer; Jack Weaver, newly-elected board member.

Social hour will start at 5:30 p.m., followed by dinner at 6:30 and the program at 7:30.

GD/E Mgt. Club Elects G. W. Leesch President

George W. Leesch was installed as president of GD/Electronics Management Club at San Diego last month in ceremonies at the Bronze Room and Restaurant, La Mesa. Leesch succeeds Kent Sinclair.

Other officers seated were Keith Strowig, first vice president; C. C. Slaght, second vice president; R. F. Voell, treasurer; J. V. Wahl, secretary. Board of control members are R. H. McManus, two-year term, and R. W. Perrin, three-year term. L. M. Hanson, elected to the board last year for a three-year term, is the only holdover.

Music of New Disk Credited to GD Son

Music of the newly-released platter, "It's Summer, Summer time," was composed by a Convair son, Douglas Baker, whose father is Floyd A. Baker, Dept. 250-1.

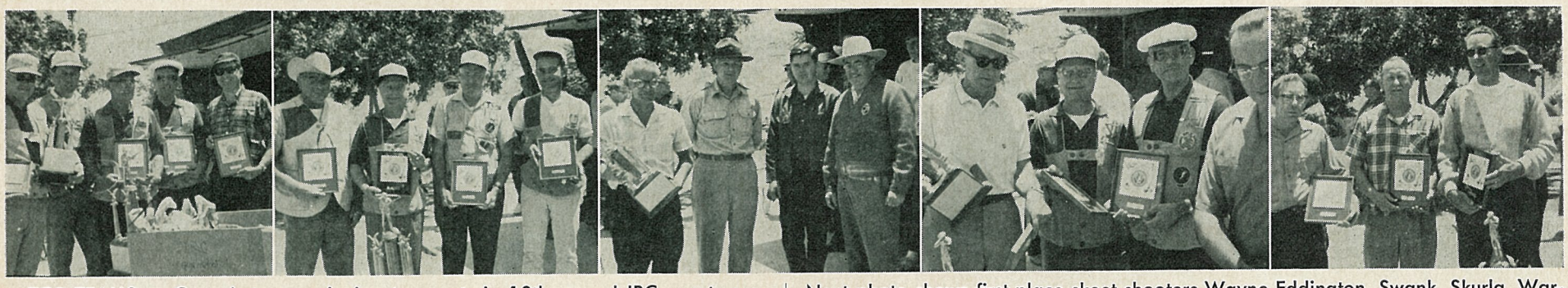
Doug, now a clarinetist in the band at March AFB, majored in music at Grossmont Junior College, was a member of the Civic Youth Orchestra, and had his own band, "The Rhythm Masters," before joining the service.

Value Engineers Plan Rohr Tour

General Dynamics members of Society of American Value Engineers may reserve their tickets now for the San Diego Chapter's July 20 dinner meeting.

Members will tour Rohr's South Bay plant following a 7 p.m. dinner at Bonita Country Club.

Reservations may be made through Lloyd Curtis, Kearny Mesa plant, ext. 616; Wayne Turner, Lindbergh Field, ext. 491; Bill Garrett, GD/Electronics, ext. 1988; Ron Mansell, Stromberg-Carlson Plant 2, ext. 36.



TOP TEAMS — Convair teams winning top spots in 12th annual IRC events are, from left, first-place trap team of George Harbaugh, George Anderson, Lou Steiner, George Skurla, Bill Reid. Third-place in trap were Leo Redman, Jack Swank, Ezra Johnson, Doc Barnett. Team member Russ Morissette not shown. Center shot is of first-place rifle team: Bob Andrews, Herold Schnaubelt, John Dawson, Dave Farrelly. Next photo shows first-place skeet shooters Wayne Eddington, Swank, Skurla. Warner Gatterman and Red Pharis not present. At far right is part of Convair's pistol entry which finished third, Roland Schneider, Joe Williamson, Bill Geopfarth. Roscoe Anderson not shown.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for next issue of GD/NEWS is before noon, July 14.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BRIDGE — Weekly tournaments Fridays, 7:30 p.m., CRA Clubhouse. Master Point Night first Friday of each month.

CERAMICS — Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COINEERS — Meeting July 21, Convair cafeteria, Pacific Hwy.

DELTA DIVERS — Meeting July 14, 7:30 p.m., CRA Clubhouse. Scavenger hunt at La Jolla Cove, 10 a.m., July 18.

EXPLORERS — Meeting July 21, CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Meeting tonight (July 7), 7:30 p.m., Floral Association Bldg., Balboa Park.

GUN CLUB — Open ATA registered trapshoot July 25.

ICE SKATING — GD skate nights Thursdays, 6:15 to 7:45 p.m., Mission Valley Ice Arena.

JUNIOR RIFLEERS — Club shoot 8 a.m., July 17, CRA Gun Range.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — CRA shoot 9:15 a.m., July 11, SD Police Pistol Range, Federal Bldg. and Home Ave.

RADIO CLUB — Meeting tonight (July 7), 7:30 p.m., CRA Clubhouse.

RIDING CLUB—Weekend trip to Cuyamaca July 9-11. Meeting July 14, CRA Clubhouse.

ROLLER SKATING — Tickets at employe services for free skate night July 19 at Skateland, Front and G Sts.

SCULPTURE — Workshop sessions Mondays, 7:30 p.m., CRA Clubhouse.

SPORTS CAR CLUB — Meeting 7:30 p.m., July 14, Convair executive dining room, Pacific Hwy.

SWIMMING—Free swim night July 17, 7-9 p.m., Mission Beach Plunge. Tickets at employe services outlets.

TROPICAL FISH — Meeting July 12, Room C, CRA Clubhouse.

TRAILER CLUBS — Joint outing to Pine Crest, July 16-18.

WIVES CLUB — Anniversary luncheon July 21. Call Lou Nordeck, 273-1140, or Sue Cavanagh, 279-1633, for reservations.

UNDERWATER PHOTOS ON DIVERS' PROGRAM

Bill DeCourt, underwater photographer, will show his best slides to Delta Divers, Convair skin divers, at their July 14 meeting in CRA Clubhouse. Next outing for the CRA group will be July 18 with a scavenger hunt set for 10 a.m. at La Jolla Cove.

Bargain in Tickets To Shows Continues

CRA is offering reduced prices to Circle Arts Theatre productions for the rest of the summer season with GD "night" the second Friday performance of each show.

Tickets, at 25 per cent off regular prices, are $3.75, $3.20, $2.65, and $2.10. They will be sold at all Convair, GD/E, S-C employe services outlets and the Kearny Mesa Clubhouse until two days before each production.

Theater-goers have only a day to take advantage of the discount prices to this Friday's (July 9) performance of "Oklahoma," starring Ket Smythe and Peter Palmer. Tomorrow is the deadline for purchasing ducats at the division's facilities.

Next production is "Camelot," with Patricia Morison and Keith Andes with GD night set for July 23.

Richard Ellis Places In Jr. Rifle Match

Six young gunsmen of Convair Junior Rifleers traveled to El Monte late last month (June 25) to compete in Southern California Junior Rifle League matches at the Los Angeles Rifle and Pistol Club range.

Richard Ellis shot a 397 with 23 bull's-eyes to place second in the first match expert class. Others competing were John Dawson, Terence and David Farrelly Jr., Shelley McGregor and Peggy Bolton. Coaches were Dave Farrelly and Ivus Ellis.



NEW OFFICERS — Shown here are the new officers of the Serra Mesa Toastmistress club: (from left) Alba Greely, secretary; Judy Copeland, vice president; Sunny Dark, installing officer; Beth Underkofler, president; Alma Conger, treasurer; and Helen Husseman, club representative. Guest speaker at installation banquet at Kings Inn was County Clerk Robert James.

Sports & Recreation

39 Shooters Compete For Silver Service

Thirty-nine shooters vied for silver service pieces in CRA Gun Club's ATA registered trapshoot June 27.

Winners were: Class A—Herb Langfeldt, National City, 94; Class B—A. B. Davis, San Diego 94; Class C — Gene Copeland, Chula Vista, 91.

Gene Lumsden of South Gate topped both high junior, 94, and doubles, 83.

Langfeldt took first prize in handicap with a 93. Duke Higginbotham of San Diego barely edged John H. Smith, also of San Diego, out of runner-up spot after they tied at 90, then tied again at 23 in a 25-target shoot-off. Higginbotham won the second shoot-off, 21 to 19.

Next open ATA event will be July 25 at Gillespie Field Range.

Rubottom New Head Of Coineers Club

An unprecedented attendance of 91 turned out at the first meeting of the reorganized Convair Coineers last month to elect Herb Rubottom president for the coming year.

F. B. Wagner was chosen new vice president; M. Sweeney, secretary; Ed Benson, treasurer.

Members also decided by ballot to meet in the Convair main cafeteria on Pacific Hwy. Next meeting will be July 21 with three $5 gold pieces up for grabs in the raffle.

Wives to Celebrate Sixth Anniversary

Convair Wives will celebrate their sixth anniversary with a birthday luncheon July 21 at Valley Ho Restaurant in Mission Valley.

New members will be initiated and yearbooks for the coming club term distributed. Social hour is at 11 a.m. with luncheon at noon.

Reservations may be made by calling Lou Nordeck, 273-1140, or Sue Cavanagh, 279-1633.

'SPACE CARDS' ON SALE

"Space Cards," playing cards with imaginative designs telling the story of America's man-in-space programs, have been put on sale to the public at all GD employe services outlets and CRA Clubhouse. They sell for $1 a deck, tax included.

EXPLORERS TO HEAR TALK ON PHOTOGRAPHY

Explorers will hear Norman Baird give pointers on camp and trail photography at their July 21 meeting in CRA Clubhouse. A 30-min. nature movie is also on the program.

Bus Trip Arranged For Dodgers Game

Baseball fans have a couple of weeks more to sign for the CRA bus trip to the Dodgers vs. Cardinals game in Los Angeles on July 25.

Deadline for reserving a seat is July 21. Entire cost of round-trip transportation and admission to the game is $5.50, which must be paid at time of sign-up at either CRA Clubhouse, Kearny Mesa, or at employe services, Bldg. 16, Lindbergh Field.

Jaminet-Leistico Tie With Rustads

Jerry Jaminet and Don Leistico tied for first place with Mitzi and Bob Rustad at the June 18 CRA Bridge Club tourney. Mari and Bob Hoffman won East-West corner in June 25 play and Jo and Tony Miller paced North-South players.

Howard McCullough, Bridge Club regular, recently was elected to the board of directors of the San Diego Unit of the American Contract Bridge League.

Gardeners to View Grafting, Budding

CRA Garden Club members will see a demonstration on grafting and budding of plants, rose bushes, and trees at tonight's (July 7) meeting, 7:30 p.m., Floral Association Bldg., Balboa Park, by Co-commissioner Gene Zimmerman and James Kirk of the San Diego County Rose Society.

Members will bring dahlias to enter in the specimen bloom show which will be judged before the entire group, said Commissioner Everett Henderson.

The judging will show members basic points which determine winning blooms as a preview to the Aug. 1 Dahlia Show.

Conrad Nash Named Head of Riding Club

Conrad Nash was appointed president of CRA Riding Club by Commissioner Joe Pena to fill out the term of Ace Eiland who resigned last month. Other officers are vice president, Bud Donahoo; secretary, Judy Watson; and treasurer, Boyd Spencley.

CRA Will Sponsor Speech Clubs Again

Speech Clubs, under Commissioner Earl Smith, have been reactivated under Convair Recreation Association sponsorship as a CRA activity.

Three clubs which receive CRA support for the benefit of General Dynamics people are the Serra Mesa Toastmistress Club, Dynamic Toastmasters Club 457, and Convair Toastmasters Club 3745.

CRA funds provide trophies, pins, educational materials, training aids for the three groups. All hold regular meetings in CRA Clubhouse auditorium, Kearny Mesa.

The Toastmistresses Club meets the first and third Monday evenings, 7:30 p.m. Dynamic Toastmasters hold weekly meetings Thursdays at 5:15 p.m. and Convair Toastmasters meet each Wednesday at 4:15 p.m.

Smith may be contacted at ext. 2896, Kearny Mesa plant.

Youngsters' Parade Celebrates July 4

Families of CRA Riding Club celebrated the Fourth with a pot-luck and children's parade at Mountain View Ranch Stables on Ruffin Road.

Costumed youngsters, their horses, dogs, cats, were led by the club's new Color Guard, David and Dale Watson, Sheila Payne, Charlann Harmer, and Jan Spencley, all children of Convair parents. Chairman for the holiday gathering was Mrs. Boyd Spencley.

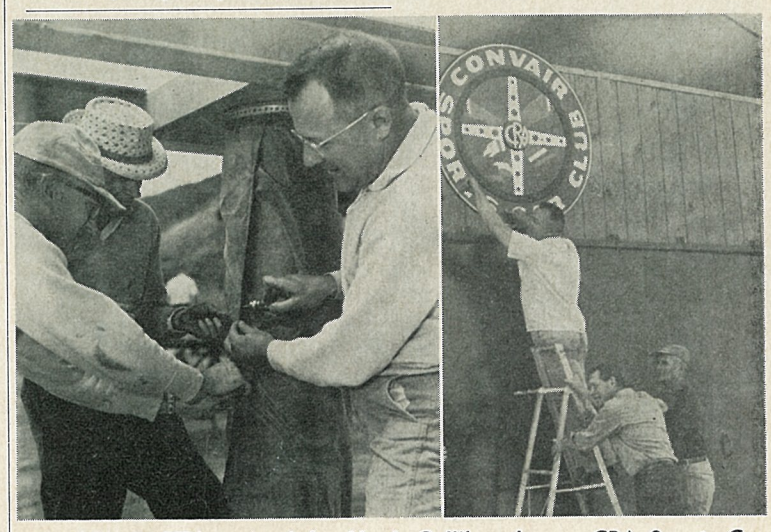
This weekend, July 9-11, riders will meet at Horsemen's Group Camp in the Cuyamacas for a camp-out and trail ride. Chair-

Sports Drivers Spend Day Cleaning Garage

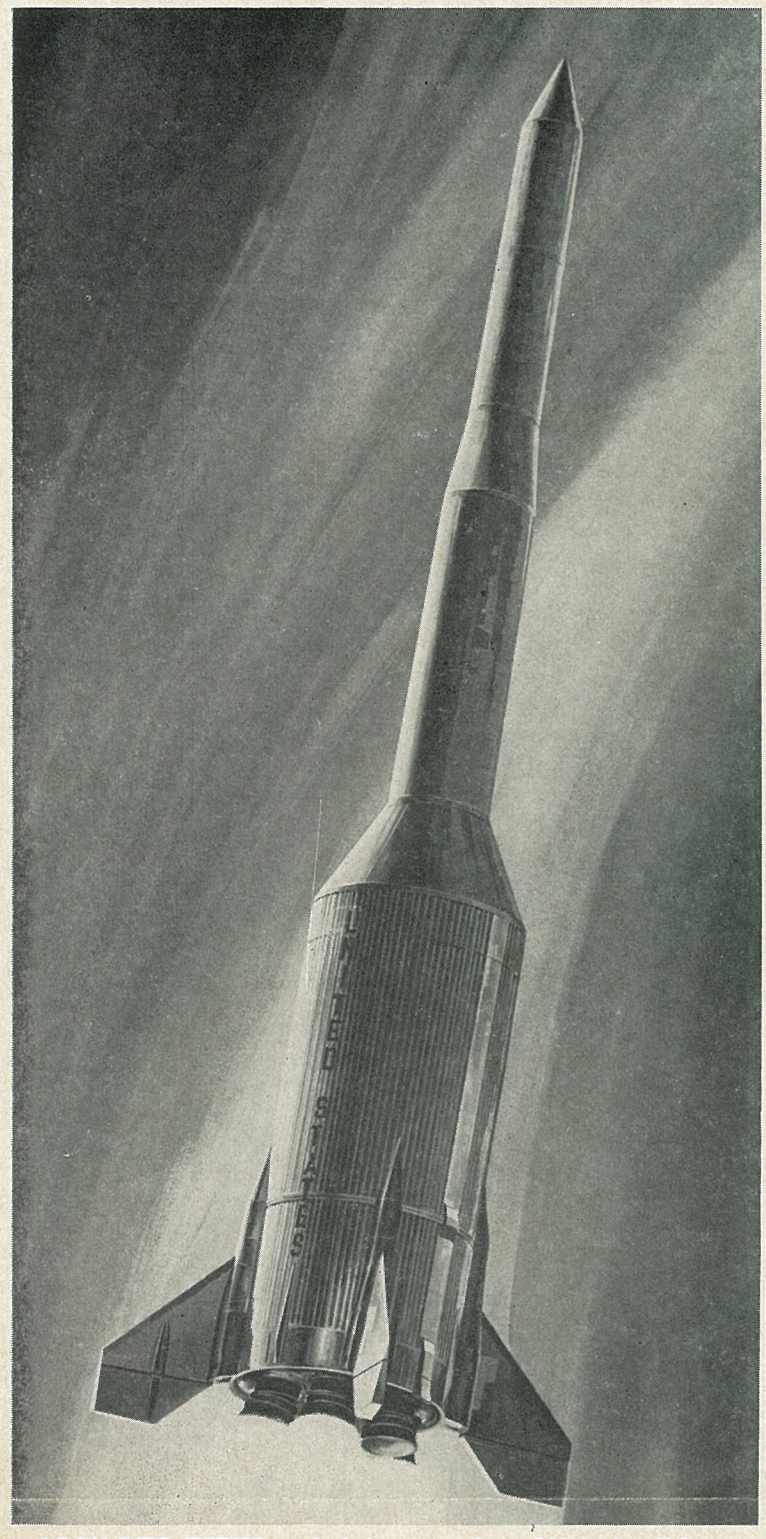
First major clean-up and renovation of CRA Sports Car Club's shop garage at Gillespie Field drew a work force of 25 for an all-day session of cleaning, painting, and refurbishing on June 26.

Part of the crew painted the roof and outside walls of the shop building, equipped for service and maintenance of Sports Car Club members' cars almost exactly two years ago.

Grace Wright, wife of Commissioner Gerry Wright, and Alice Oehler, wife of Club President Al Oehler, served dinner at noon in CRA Clubhouse.



WORK PARTY — At right, Hank Callihan hangs CRA Sports Car Club emblem on freshly-painted club garage during work session at Gillespie Field. Wally Killeaney and Commissioner Gerry Wright steady ladder. In photo at left, Judge Penick, George Nicoloff, and Callihan sew new sleeve on grease hoist piston.



LOOK INTO FUTURE — Artist's conception of Little Joe II booster mated with Minuteman ICBM shows possible application of Convair-built launch vehicle for combination that would perform as first solid-propellant orbiting vehicle, capable of placing more than 2,000 lbs. into 100-mile orbit. This is but one of uses proposed for low-cost, reliable Little Joe II, now being built for NASA's Manned Space Flight Center for sub-orbital tests of Apollo Spacecraft.

5,000 Engineers, Scientists Will Attend Meeting

Twenty-five General Dynamics employes will present papers or act as chairmen of technical sessions in the second annual meeting and technical demonstration of the American Institute of Aeronautics and Astronautics (AIAA) to be held in San Francisco July 26-29.

General Dynamics product displays will be featured in the technical demonstrations.

More than 5,000 scientists and engineers are expected to attend the AIAA meeting to review and discuss future developments in aerospace and aviation.

Among Convair personnel participating in the technical sessions will be Abraham Hurlich, who will act as chairman of the session on materials for aerospace applications; and John A. Fager, who will present a paper entitled "Effects of Hypervelocity Impact on Projected Solar Cells" during the same session.

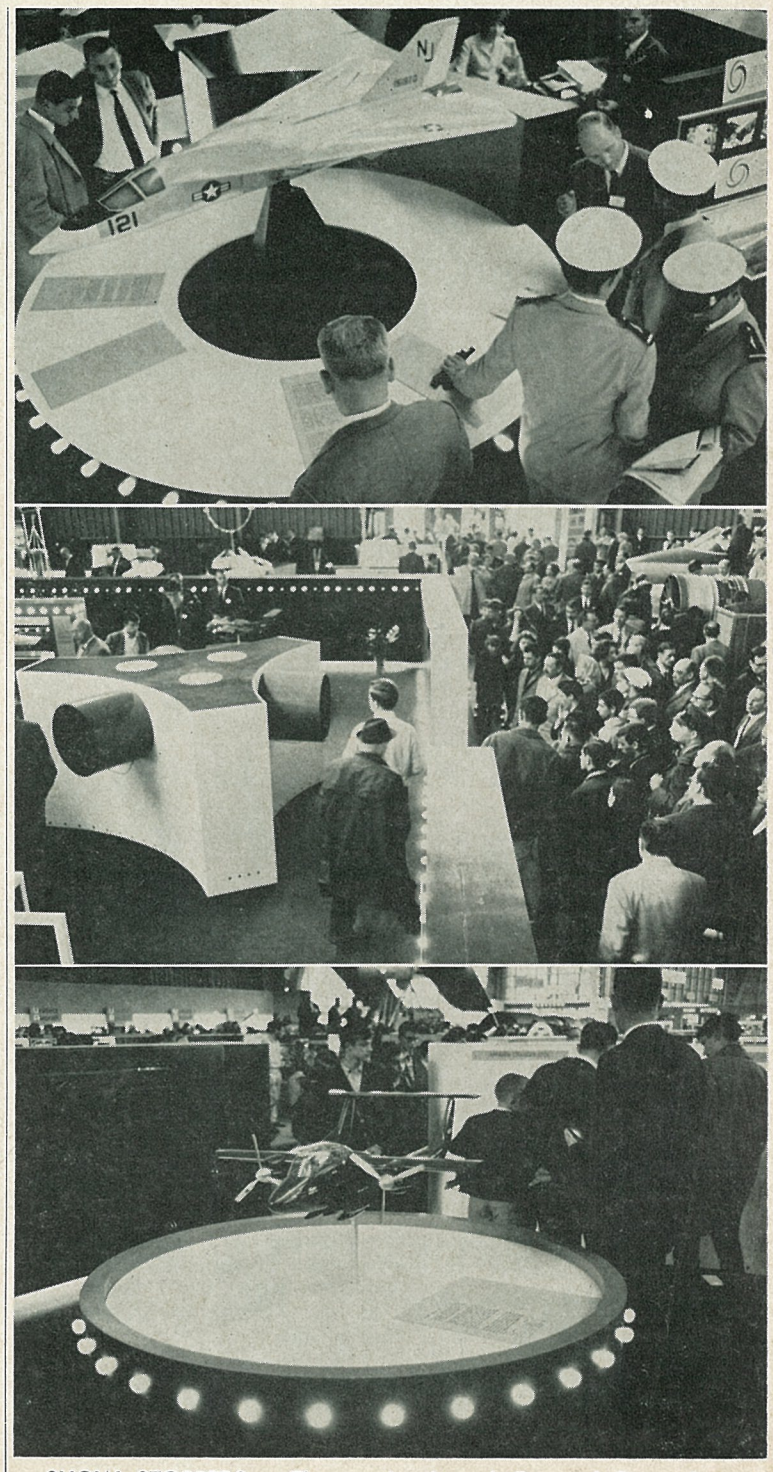
Other Convair chairmen will be Michael Dublin, who will chair the session on structural dynamics, and W. H. Bond, who will chair the session on air breathing propulsion.

R. Lovberg, consultant to the General Atomic division, will speak on "Investigation of Current Sheet Microstructure" during the session on plasma propulsion. Convair personnel B. R. Hayworth, C. W. White, A. R. Miller, T. J. Gooding, and A. V. Larson will also speak during the session.

In the thermophysics session, Convair speakers include J. T. Neu, O. W. Clausen, L. C. Lemke Jr., G. L. O'Barr, M. D. Campbell, and J. Hertz.

D. L. Martindale and J. J. Gilbeau will present a joint paper entitled "A Large Scale Storage and Transfer System for Distribution of Liquid Helium as a Refrigerant Medium."

Presenting papers in other sessions will be Convair employes F. J. Dore Jr., E. S. Winlund, R. C. Brown, Alan C. Connolly, A. C. Eulberg, and J. R. Thayer.



SHOW STOPPERS — Thousands viewed General Dynamics exhibits at Paris Air Show last month. In top photo is large F-111 model, a top attraction, and in center F-111 film causes traffic jam as crowds halt in aisle to watch. At bottom is Charger model, also accompanied by movie.

Paperwork Purge Uncovers 1942 Account Of Conditions at New Fort Worth Plant

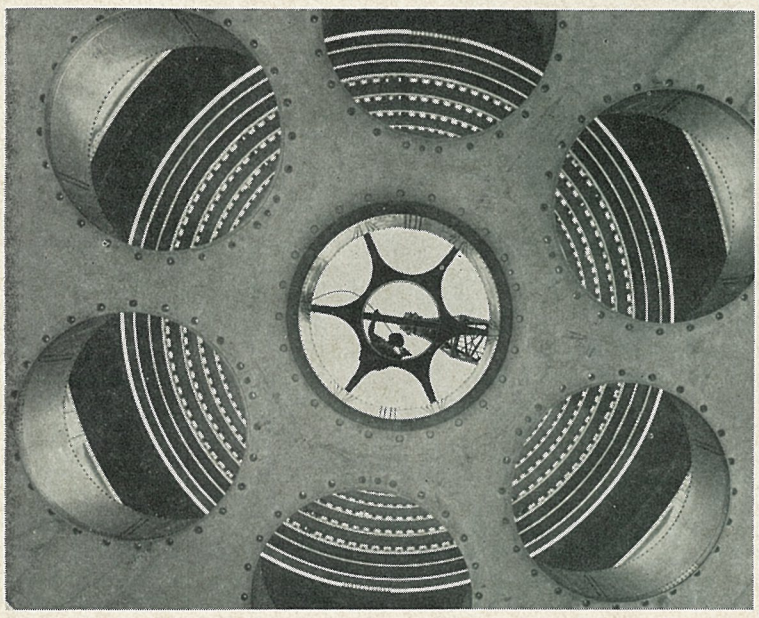
Purging file cabinets, desk drawers, and other areas can be downright educational.

Or so thinks C. P. Helms, GD/Fort Worth Dept. 25-3, who uncovered an April 19, 1942, issue of the Fort Worth Star-Telegram. He gleaned the following miscellany:

"John Hassler, director of industrial relations, estimates that the Fort Worth plant when in full operation will employ about 50 per cent women workers."

"Stephen J. Powell, new factory manager of Consolidated Aircraft's FW plant, is an aircraft veteran with experience on every model manufacturers have produced since 1925."

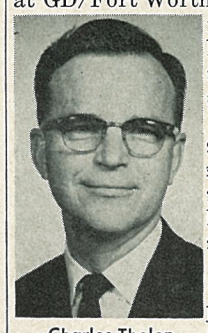
Average weekly earnings of aircraft workers—as released by California Dept. of Industrial Relations—were $41.64. The wage represented a gain of 25.3 per cent over December, 1940.



GUESS WHAT! — Unusual photo was shot at Convair's Lindbergh Field plant. If you can guess what it is, you are well advanced toward genius category. For proper identification, turn the paper around. It is Little Joe II from bottom up, approximately 30 feet from camera to man at top. Circular positions are for rocket motors.

CHARLES W. THELEN NATIONAL HEAD OF TECHNICAL WRITERS

Charles W. Thelen, service engineering publications supervisor at GD/Fort Worth, has been elected president of Technical Writers and Publishers Society.



Charles Thelen

He was installed at the society's national convention in New York recently.

A veteran of 22 years at GD/FW—17 in service engineering publications—Thelen has held a number of posts in STWP at both local and national levels.

Thelen announced that the national convention will be held in Fort Worth in 1966. Wayne Collum of GD/FW is chairman of the planning committee.

GD/FW employes elected to office in the local chapter recently include: W. W. Deaver, chairman; Dr. J. M. Brown, vice chairman; A. V. Wimberly, recording secretary; W. O. Denman, corresponding secretary; C. H. Herod, treasurer; F. E. Bachman and A. A. Schrimsher, directors.

DYNAMICS AFROTC AWARD PRESENTED

Richard J. Maertz of Duluth received the General Dynamics AFROTC award for scholastic and leadership qualities during the annual Provost Day Parade at the University of Minnesota in late May. C. H. Marier, Convair field service representative with the 343rd Fighter Group at Duluth Air Base, made the presentation.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

JACK D. PHELAN (1961) from Convair to marketing manager, Electronics (San Diego); **WILLIAM H. JENNINGS** (1957) and **DALE J. NEMETH** (1960) from Convair to purchasing, Electric Boat; **HOWARD R. AUTEN JR.** (1956) from Fort Worth to engineering test pilot, Convair; **BENJAMIN W. BROWN** (1964) from Convair to procurement quality control engineer at Electric Boat; **RAYMOND KERR** (1956) from Convair (Cape Kennedy) to industrial relations, Electric Boat.

JAMES A. MILLER (1958) from Convair to technical aide, Electric Boat; **CHARLES R. BOTTS** (1956) from Convair to General Atomic; **JOHNNY POWELL** (1961) from Convair to senior draftsman, Electric Boat; **RUSSELL H. CLARK** (1964) from Electronics (Rochester) to nuclear quality control engineer, Electric Boat; **MAHLON P. WITHEE** (1959) from Convair to nuclear projects senior engineer, Electric Boat.



"Now, make ten more copies of the letter. Spell everything *exactly* the same way . . . I want to pass them around for laughs!"

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 15 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, July 21, 1965



FAA ROLL-OUT — Convair-built 880-M, in service with Federal Aviation Agency since 1961, moves out of Convair modification right on schedule after two-month overhaul. Craft was due to leave San Diego for Oklahoma yesterday.

FAA 880-M Overhauled, New Devices Installed

Federal Aviation Agency's Convair 880-M was due to leave the San Diego flight line this week in completely overhauled condition after two months at GD/Convair.

The Convair-built transport, which has been used by the FAA since fall of 1961 for flight training, was at the Lindbergh Field plant from May 10 for its 4,000-hour overhaul and inspection.

"The extensive overhaul was completed right on schedule," said E. J. Huntsman, in charge of the Convair modification project.

"Every major component was disassembled, inspected, repaired or cleaned as needed, and tested. The entire plane received a fresh paint job."

In addition to overhaul after more than three years' service, the FAA plane was equipped with three new major devices for evaluation by the Agency. They included a tail skid, a protective device engineered and fabricated at Convair to prevent damage to the tail in steep take-offs; a thrust meter to evaluate engine thrust, designed to FAA specifications with Convair engineering assist; and a maintenance recorder system.

Of the three, the maintenance recorder system is the most significant, said FAA engineers assigned to the program. It is one of the first of this type to be installed in jet transports to meet military and commercial needs for a reliable, simple means of recording in-flight data, with minimal maintenance and calibration.

The system is connected to 200 different points in the craft, explained Charles Sjulin, FAA engineer. These include all surface movements—flaps, ailerons, spoilers, rudders; existing avionics systems, in addition to other electronic and electrical systems.

Data gathered during flight will help determine serviceability of the plane at all times.

Heading the FAA contract team at Convair to monitor overhaul operations were Leland "Tex" Wilborn and Charles Korstjens. Glen Schroeder was flight engineer for overall systems, and Sjulin was assigned specifically to installation of the maintenance recorder system. Orville Johnson, FAA contracts administrator from Oklahoma City headquarters, was at San Diego at inception of the program.



INSTALLATION CHECK — Lou Lau, in charge of operations in Convair overhaul of Federal Aviation Agency's 880-M at Lindbergh Field plant, consults with FAA's Charles Sjulin on installation of maintenance recorder system equipment rack.

Marvelous Model RR Project Dedicated

Convair Recreation Association dedicated its quarter-scale railroad — the newest attraction in the CRA Missile Park — last week.

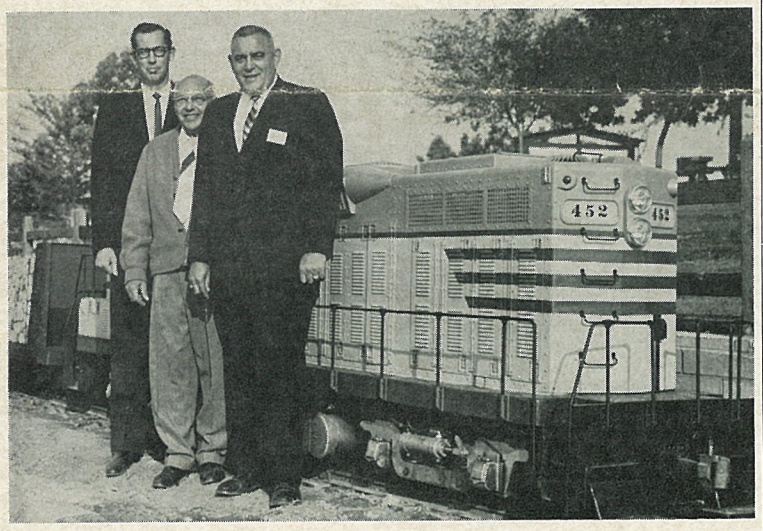
Special appreciation was shown for the many employes who had given generously of their time, and to their wives and families whose efforts also contributed to the success of the project.

The occasion marked the end of a three-year, 20,000-manhour volunteer project that resulted in a model of a general purpose diesel-electric locomotive (scale of three inches to a foot) and four freight cars capable of carrying about 54 children. When additional cars are completed, capacity will be about 70 children.

The train, which at dedication consisted of the engine, a flatcar, a log car, a gondola car, and the caboose, was built for two purposes: to give the Missile Park another recreation facility, especially for children, and to give Convair's railroad hobbyists an opportunity to construct a functioning model railroad on a grand scale.

Speakers were J. K. Field, chief of employe services, and Marty Stutz, who was a key figure in the project. Ray Mendoza, supervisor of the Missile Park, was

(Continued on Page 5)



PROUD RAILROADERS — Standing by No. 452, locomotive for new model railroad at Kearny Mesa, are three men credited with playing largest roles in seeing project through to success. They are, from left: Tom Buckley, Leo Heyob, Marty Stutz.

New Marine Center Established For Research on West Coast

General Dynamics last week opened a Marine Technology Center in San Diego to further extend its support for military, scientific and commercial marine activities on the West Coast.

Located at the Convair Harbor Drive Test Site (ramp), the center will coordinate West Coast application of GD's extensive scientific and technical resources in such fields as anti-submarine warfare, undersea oil exploration, undersea research and salvage, etc.

President Roger Lewis pointed out that GD has been deeply engaged in marine research for 66 years and that the new center will allow more active participation in oceanographic activities in the Pacific.

Directing the center's operations is Dr. H. E. Sheets, who headed Electric Boat's research and development activities since 1953.

He received his doctor's degree in technical science from the University of Prague, Czechoslovakia, and came to the United States in the late 1930s. He was a member of the scientific group working on the Manhattan Project which resulted in the nuclear bomb during World War II. From 1946 until he joined Electric Boat, Dr. Sheets was engineering manager of Goodyear Aircraft Corp., Akron, Ohio.

His staff includes three underwater and marine sciences specialists, William H. Ezell and James B. Hall, also formerly of Electric Boat, and Robert H. Oversmith who had been with Convair division since 1951.

Ezell is assistant director of the newly-established Marine Technology Center. He had been with Electric Boat since 1954, most recently as assistant manager of development engineering in underwater technology.

Hall, staff engineer in underwater technology at EB since 1960, has been assigned to the post of staff engineer at the center.

Oversmith, former chief of anti-submarine warfare and marine sciences at Convair, is manager of ocean engineering.

Initially, the new center will operate one research ship, the 84-ft. Rorqual, based in San Diego. A second research ship, the 290-ton Sea Surveyor, and research submarines currently are based at Groton, Conn., but will be available to the new center as required.

NASA Research Chief To Speak July 27

The education committee of GD/Convair Management Club, in cooperation with the American Institute of Aeronautics and Astronautics, is sponsoring a talk by Dr. Winston E. Kock, director of NASA's Electronics Research Center in Cambridge, Mass. He will speak at the San Diego Concourse July 27.

Dinner tickets, $4, may be purchased from all AIAA plant representatives, from Management Club Boosters, or by mail from Bob Williams, Box 1800, La Jolla.

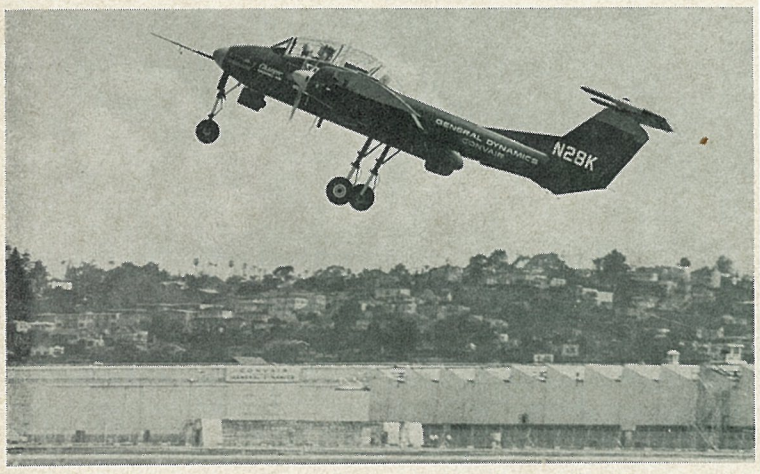
NASA Pilots Will Fly Charger In Study of STOL Techniques

NASA has contracted with Convair for 10 hours of flying time on the Charger airplane in order to further its investigation of short takeoff and landing (STOL) characteristics.

Research pilots and engineers at NASA's Ames Research Center, Mountain View, Calif., will conduct the study of Charger's STOL performance during August as part of its continuing investigation into new techniques associated with development of vertical/STOL aircraft.

Charger utilizes what is known as deflected slipstream to achieve remarkably short takeoffs and landings in less than 500 feet.

The only U. S. airplane of this type now flying, Charger is undergoing high-speed and high-altitude performance checks. More than 90 flight test hours have been logged on the aircraft.



ON WAY UP — Charger demonstrates sharp takeoff.

Salvage Schedules For Two Yards Set

Alternating Saturday morning schedule for employe sales at Convair salvage yards for the next four weeks is:

Kearny Mesa—July 24, Aug. 7.

Lindbergh Field — July 31, Aug. 14.



TO HEAD CENTER — Director of General Dynamics' new Marine Technology Center is Dr. H. E. Sheets, center. At left is W. H. Ezell, assistant director; standing, J. B. Hall, staff engineer; at far right, R. H. Oversmith, manager of ocean engineering.



VAFB COST REDUCERS — Reviewing first cost reduction awards of the year to personnel in Convair Operations at VAFB are: (from left) Frank B. McQueary, chief of financial control; Curt Johnston, chief engineer; Len Jella, chief subcontract management and procurement; Erle G. Hill, division controller; Don Fagan, manager of operations; Jack Strazz, senior buyer; E. A. "Ernie" Millar, chief operations support; and T. G. "Jerry" Neff, data processing analyst. The Cost Reduction Award certificates held by Hill represent savings of well over $1 million.

GD/Electronics Subsystem Used in Mars Transmission

A unique television subsystem manufactured by GD/Electronics in San Diego was used to take pictures of Mars from Mariner 4 and transmit them back to earth.

The television subsystem, made for the Jet Propulsion Laboratory of the California Institute of Technology, included four individual packages — the deflection and control unit, the video channel and computer, the analog-digital TV encoder, and the power supply.

Mariner 4 was launched from Cape Kennedy by Convair's Atlas 288-D on Nov. 28, 1964.

During the July 14 "fly-by" of Mars, the TV systems had about 20 minutes to photograph the distant planet. It took about eight hours to transmit each picture back to earth, thus, the TV playback recorder system operated over a period of 160 hours to transmit all the pictures. The TV subsystem converted the information gathered to digital form, recorded it on magnetic tape, and the telemetry system then transmitted back to earth.

D. C. Prim, manager of GD/Electronics in San Diego, said that because of the importance of the mission and the necessity for automatic operation, reliability and quality levels during manufacture and assembly were among the highest ever required at GD/Electronics.

The extreme complexity of transmitting pictures more than 134 million miles from earth, placed the highest requirements for reliability of all the systems connected with the production of the photos. Every segment of the four units was carefully screened before it was installed and progressive inspection with the aid of microscopes was required procedure.

Convair Folk at VAFB Already Way Over Cost Reduction Quota and Going Strong

Nearly $1.2 million in Cost Reduction Proposals have been approved for Convair employes at VAFB.

This mid-year amount is 162 per cent of the cost reduction quota for the entire year!

Some of the larger proposals and their originators are:

Improved launch pad checkout of missiles and eliminate missile assembly building checkout entirely — saving of $40,000 credited to C. A. Johnston.

Consolidate the Standard Launch Vehicle, the WTR, and the functional organization at VAFB into one integrated work force — saving of $488,000, credited to D. L. Fagan.

Unify the programs support function—saving of $99,000, credited to F. V. McQueary.

Additional cost reduction proposals submitted by Convair employes at VAFB with potential savings of nearly $1 million are now being processed for approval.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due July 16 through July 31.

Thirty-year: Dept. 821-0, F. R. Field.

Twenty-five-year: Dept. 024-0, H. F. Horan; Dept. 031-0, W. E. Barnett, R. S. Bryan, D. D. Claxton, J. E. Cassidy, W. C. Pahl, V H. Schade; Dept. 041-0, K. R. Erb, Archie Stirling Jr.; Dept. 054-0, D. G. Moody; Dept. 143-4, F. B. Shockley; Dept. 149-0, G. W. Turner; Dept. 210-4, J. R. Mikulsky; Dept. 250-1, T. J. Cunnion Jr., H. E. Rolan; Dept. 400-0, E. H. Damaras; Dept. 401, J. L. Cortez, B. L. Creason; Dept. 420-6, J. A. Hickman; Dept. 460-0, M. A. Murphy; Dept. 512-2, A. R. Jensen; Dept. 520-3, T. W. Wills; Dept. 744-0, K. W. Richey; Dept. 756-0, H. W. Niermann; Dept. 759-0, C. E. Parsons; Dept. 763-0, C. C. Baker.

Twenty-year: Dept. 041-0, C. P. Welch; Dept. 130-6, Louise Thompson; Dept. 149-2, Lela M. Brotherton; Dept. 228-0, Dora B. Burke; Dept. 251-3, J. W. Ratz; Dept. 957-0, E. W. Leyva; Dept. 963-1, H. E. Seibert; Dept. 966-4, T. R. Ohman; Dept. 972-0, R. W. Dickenson.

Fifteen-year: Dept. 130-1, E. A. Ashmore; Dept. 149-2, Rose M. Darling; Dept. 250-3, J. G. Frazier; Dept. 251-1, R. E. Wells; Dept. 400, Max Levenson, E. G. Sherman; Dept. 420-5, H. A. Anderson; Dept. 460-0, B. R. Hudson; Dept. 508-0, R. V. Sinnott Jr.; Dept. 511-1, C. L. McLaughlin; Dept. 524-3, Billie L. Simpson; Dept. 544-5, J. M. Polhamus; Dept. 545-4, G. E. Shields; Dept. 576-1, E. T. Johnston; Dept. 585-1, R. L. Holt.

Dept. 756-0, R. R. Rote; Dept. 759-0, F. C. Alvis; Dept. 763-0, L. G. Kamin; Dept. 780-1, W. F. Strickland; Dept. 800-0, M. S. Stepich; Dept. 818-1, Nadine Don Carlos; Dept. 824-0, F. C. Woods Jr.; Dept. 832-3, J. L. Bershaw; Dept. 834-1, T. F. Carter; Dept. 835, Joseph Badami, O. H. Ourette; Dept. 845-1, Margaret G. Collier; Dept. 935-6, C. A. Stewart; Dept. 936-4, L. C. Nardi; Dept. 972-0, K. F. Cash; Dept. 976, M. L Bates, W. H. Winchell; Dept. 978-3, E. H. Minder.

Ten-year: Dept. 132-1, C. B. Hassell; Dept. 141-3, G. A. Morris; Dept. 250-1, L. W. Williams; Dept. 401-7, R. W. Klein; Dept. 452-0, C. V. Carey; Dept. 454-0, Ygnacio Ledesma; Dept. 530-0, Leroy White; Dept. 551-4, M. C. Bayer; Dept. 571-1, W. F. Herndon; Dept. 578, A. W. Hamrick, D. R. Wright; Dept. 587-1, P. M. Nissley; Dept. 588-2, C. E. Kohler Jr.; Dept. 591-0, R. F. Klawa, E. H. Pearson.

Dept. 691-1. R. L. Johnson; Dept. 756-0, K. F. Minegar; Dept. 758-0, M. C. Guillen, H. E. Quade; Dept. 819-0, Dareld Olson; Dept. 832-1, Anne Ogle; Dept. 835-4, J. P. Gay; Dept. 963-6. K. C. Lejman; Dept. 967-4, H. D. Kyler; Dept. 978, J. J. Semancsin, E. L. Summersgill.

ELECTRONICS

Twenty-five-year: Dept. 4073, P. R. Hoffman.

Twenty-year: Dept. 6867, J. V. Wahl.

Ten-year: Dept. 6853, D. C. Dilworth, G. V. Trivoli; Dept. 6859, A. C. Barnett.

STROMBERG-CARLSON

Ten-year: Dept. 8572, E. G. Macy; Dept. 8601, D. L. Macey; Dept. 8732, Henrietta G. Dieter.

Retirements

CONVAIR

ALDRIDGE — Richard E., Dept. 665-7. Seniority date Dec. 13, 1955, retired June 11.

DODDS — Valdia E., Dept. 733-0. Seniority date Aug. 15, 1950, retired June 25.

HART — Joseph E., Dept. 16-1. Seniority date March 5, 1952, retired Aug. 30, 1964.

McENTEE — Lawrence C., Dept. 25. Seniority date Sept. 15, 1935, retired June 11.

NICKERSON — Ada H., Dept. 480-0. Seniority date Aug. 23, 1943, retired June 18.

TALBOTT — Preston L., Dept. 25. Seniority date Nov. 23, 1942, retired June 21.

Deaths

CONVAIR

KNAFFLA — Carl H., Dept. 832-3. Died June 24. Survived by wife, Lillian L. Knaffla.

WILSON — Bertha, Dept. 999. Died July 5. Survived by husband, Howard B., parents, three sisters, and three brothers.

Awards

CONVAIR

Employe Suggestion Awards approved for the week ending June 30.

Dept. 101, W. L. Dueber, R. L. Shinn; Dept. 116, D. W. Kennedy; Dept. 123, A. K. Raines, R. J. Robinson; Dept. 140, J. J. Brandt; Dept. 141, M. M. McCaskey; Dept. 250, B. O. Green; Dept. 571, G. A. Tatum; Dept. 644, L. O. Lyte.

Dept. 731, D. E. Golem; Dept. 758, G. F. Eggert, N. Montallegro; Dept. 780, J. E. Sandiford Jr.; Dept. 814, D. McHargue; Dept. 835, F. Sabatka; Dept. 953, F. R. Gaughen, Donna Thompson; Dept. 964, K. K. Eulette; Dept. 979, W. B. Sullivan.

Employe Suggestion Awards approved for the week ending July 7.

Dept. 15-1, N. D. Jones; Dept. 25, R. F. Graham; Dept. 48-32, E. N. Costello; Dept. 123, R. J. Robinson, G. D. Rush; Dept. 125, M. F. Clark; Dept. 251, G. A. DeMarino; Dept. 401, H. Tieszen; Dept. 420, I. G. Rooder; Dept. 644, Mary L. Arestad; Dept. 673, L. W. Howerton, G. L. Sapp; Dept. 733, Kenneth Erwin, J. E. Kemp; Dept. 821, M. F. Gonzales; Dept. 833, Robert Badilla; Dept. 973, D. J. Reno.

Cost Improvement Proposals approved for the same period.

Dept. 576, W. J. Zathan; Dept. 759, B. L. Wolfe.

Invention Disclosures

CONVAIR

DORE—F. J. Jr. and P. M. SCHROEDER Jr., both Dept. 581-0. Manned-Reusable Space Launch Vehicle - Configuration Design.

DORE—F. J. Jr. and P. M. SCHROEDER Jr., Internal Arrangement - Reusable Manned Upper Stage and Payload.

KACHIGAN — K., Dept. 966-0. Dynamic Fluid Balancer for Rotating Equipment.

MERZ — P. L., Dept. 572-1. Bi Polymer Type Cryogenic Seals.

SCHROEDER — P. M. Jr., Dept. 581-0. Simplified Wing Design Using High Temperature Materials for a Reusable Rocket.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, Aug. 2, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, July 27, 8 a.m., Bldg. 14 Auditorium; second-shift, Tuesday, July 27, 4:30 p.m., Bldg. 14, Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 7-8 a.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa. Group 3: July 19, 20, 21, 22.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS — H. C. Neel. 16 hours; every Tuesday, 1:30-3:30 p.m., for 8 weeks; Room 6, Bldg. 14, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field.

DRAFTING (UNDIMENSIONED DRAWING) — S. W. Mopps, E. A. Zivolich, W. J. Wood. 80 hrs.; daily 1-4:30 p.m.; Bldg. 5 Loft, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field plant.

ARMA GUIDANCE FAMILIARIZATION — Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Ten hours; two hours daily, mornings; Bldg. 17, Kearny Mesa. Starts July 26.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECK-OUT — Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours; Monday through Thursday, 3:15-5:15 p.m. July 26 through Aug. 26. One week on Fortran. Bldg. 17, Kearny Mesa.

ADVANCED AERODYNAMIC HEATING AT HYPERSONIC SPEEDS—Prof. Eugene Stolarik (University of Minnesota). For information call R. E. Tatro, ext. 2462, Kearny Mesa. Ten hours, Tuesdays and Thursdays, 9-10 a.m., July 1 through Aug. 5. Room 2, Bldg. 17, Kearny Mesa. Course material includes practical engineering approaches to assist preliminary design activity.

AFTER HOURS TRAINING IN-PLANT

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I) — Dennis Suchecki, ext. 1931, Kearny Mesa. Sixty-five hours, Tuesdays, 5:30-8 p.m.; July 20-Jan. 25, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For advanced registration, call Laura, ext. 1931, Kearny Mesa.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.



NEW SLATES — Management Clubs at Stromberg-Carlson Data Products and GD/Electronics at San Diego install new officers for 1965-66 term. In photo at left are S-C officers: seated from left, Ray Mattas, president; Don Kirkman, first vice president; (standing) Joe Cyranek, second vice president; Tom Bankhead, secretary; Roy Gilmore, treasurer. Jack Weaver, new board member, not present. In shot at right are GD/E officers: seated from left, J. V. Wahl, secretary; K. W. Strowig, first vice president; George W. Leesch, president; C. C. Slaght, second vice president; (standing) L. M. Hanson and R. W. Perrin, board members. Not present were R. F. Voell, treasurer, and R. H. McManus, board member.

Use of Pre-Addressed Envelopes Will Speed Action on Cost Ideas

Employe Suggestion boxes at Convair have a new look, part of a faster method of handling suggestions.

The former black and gray wooden boxes have been replaced by a compact, gray metal version. Suggestions are no longer submitted by dropping them in the box — to be picked up once a week. Each of the new boxes has a supply of envelopes pre-addressed to the Suggestion Group, Dept. 170-22. By placing suggestions in these envelopes, and putting them in the plant mail, ideas are received in the Suggestion Group with a minimum of delay. A copy of the suggestion, with the serial number and the suggestion analyst's name on it, is returned to the employe.

HODGE WILL JUDGE NATIONAL EXHIBIT

Stan Hodge, Convair manager of industrial graphics, has been selected as a member of a nationwide jury to judge the Sixth Annual Exhibition of Communication Art. The exhibition, sponsored by Communication Arts magazine, will be judged in New York City July 29-31.



SUGGESTION, ANYONE? — Gail McNutt, Dept. 170-1, poses by new Convair self-service suggestion box. Designed to speed processing of Employe Suggestions, boxes feature pre-addressed envelopes for plant mail.

Disability Tax Rate Increased

Effective Aug. 1, the tax rate on employes' wages for unemployment compensation disability will be increased from 1 per cent to 1.1 per cent, and the annual wages subject to the tax will be increased from $5,600 to $7,400. However, the tax rate of 1.1 per cent will revert to 1 per cent on Jan. 1, 1966.

Beginning with the first paychecks in August, deduction from wages will be made on that basis.

The maximum weekly disability benefit of $80 remains the same. Also, the order suspending payment of hospital benefits has been rescinded. Eligible employes who have been in a hospital since April 1, 1965, will receive benefits retroactive to that date.

Employes are responsible for filing claims directly with the California State Disability Office; forms are available in employe services.

Last Call Sounded For Dodger Jaunt

Last call is out for all GD baseball fans who want to join the group trip to this Sunday's (July 25) Dodgers vs. St. Louis Cards game in Los Angeles. Pete Beyrer of CRA said that last-minute seats will be sold through tomorrow morning (July 22). Charge of $5.50 must be paid at CRA Clubhouse, Kearny Mesa, or employe services, Lindbergh Field, at time of sign-up.

Reservations are now being taken for the Aug. 22 game between the Los Angeles Angels and Minnesota Twins.



COMPUTER TALK — Representatives from three General Dynamics divisions met recently at Convair's Kearny Mesa plant to discuss possibility of using same model digital computers in Pomona, Convair and Fort Worth divisions. From left: R. W. Reber and R. V. Owens (Pomona), R. P. Curry (Fort Worth), Chairman A. E. Andress (Convair), H. S. Wolanski (Fort Worth), and Leonard Smith, executive assistant to James MacDonald, Corporate vice president.

Novel Wing 'Expansion' System Provides High Lift For F-111

The F-111's variable wing not only sweeps back and forth in flight, it "expands" roughly 30 per cent in size during takeoff and landing.

Expansion is created by full-span, double-slotted flaps on the trailing edge of the wing and an ingenious wing-slat device on the leading edge.

These flaps and slats can be extended down and out, giving the wing a highly cambered, or "over-the-barrel" effect. Air flows over this configuration more smoothly, creating additional lift for the plane during low-speed takeoffs and landings.

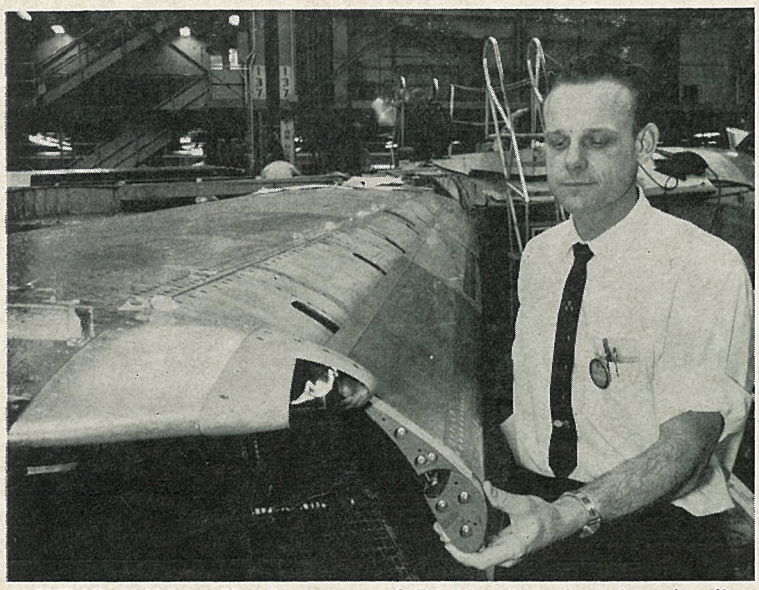
High-lift devices aren't new on airplanes. But the two-piece slat on the F-111 is. It was designed especially for the F-111 — with its short takeoff and landing requirements — by C. E. Jackson, senior aerodynamics engineer. Patent is pending.

On takeoff or landing, the slat is actuated outward from the leading edge. Then, the slat's nose, rotating about a pivot point, is moved still farther down. This rotated nose piece gives the slat a better aerodynamic shape, thus increasing the wing's maximum lift.

Conventional wing slats would not have met F-111 lift requirements, according to Jackson.

Regular slats, such as those used on many other airplanes, are formed from the wing leading edge contour. "This contour obviously wouldn't work well on a supersonic plane, with its thin wings and sharp leading edges," Jackson explained.

The F-111's slats present no stowage problem, since less track curvature is required, and a full-span slat can be obtained regardless of undersurface or wing-mounted stores.



WING MAN — Pivoting nose of F-111 wing slat gives leading edge blunter, more cambered effect for short takeoffs and landings. Demonstrating slat is C. E. Jackson, senior aerodynamics engineer, who designed it.

AIAA Will Hear Heinemann Talk; Ehricke to Receive Fellowship

Two distinguished General Dynamics men will be prominent July 29 during the annual meeting of the American Institute of Aeronautics and Astronautics in San Francisco.

E. H. Heinemann, Corporate vice president, engineering and program development, will speak on "Aircraft in 1985."

Convair's Kraft A. Ehricke will be made a fellow of the AIAA. He will receive the fellowship during the honors convocation in San Francisco's Hilton Hotel.

Ehricke, a lifelong space research scientist and one of the world's leading advocates of space flight, is director of advanced studies at the Convair division. He is currently conducting advance research on space missions to the far reaches of the solar system. In this connection, he was recently interviewed on nationwide television regarding the Mars fly-by.

General Dynamics will have an extensive exhibit at the convention, including models and movies of the F-111 and Charger, an Atlas SLV-3X model and actual hardware of the Aerospace Research Satellite, including propulsion unit. Electro Dynamic division's Vane Axial Fans (for cooling electronic systems) will be on display.

Among those scheduled to give technical briefings are Milt Nelson and Mike Stevens of Electro Dynamic, Brown Thompson, Bob Voth, Jack Hughes and Jim Fink of Convair.

Technical Papers

CONVAIR

BROWN — J. B., Dept. 595-0. "A Program to Find Equations of Motion of Bodies Using Kirchoff's Derivation of Lagarange's Equations," IBM/FORMAC Users Symposium, Cambridge, Mass., June 23-24.

BURGIN — G. and L. E. PENZES, Dept. 512-1. "Free Vibration of Thin Isotropic Oblate Spheroidal Shells," Acoustical Society of America Meeting, Washington, D.C., June 2-5.

CORMIER — E. P., Dept. 558-5. "A Planar Approach to Microelectronic Packaging Using Opposed Electrode Resistance Welding," Third Annual National Electronic Packaging and Production Conference, Long Beach, Calif., June 8-10.

FOUNTAIN — J. H., Dept. 595-0. "A General Computer Simulation Technique for Assessments and Testing Requirements," Second Annual SHARE Design Automation Workshop, Atlantic City, N.J., June 23-25.

McDERMED — O. L., W. K. STROMQUIST, and H. P. SLEEPER, Dept. 528-4. "Transmission of Isotropically Incident Electrons Through Shielding Materials," American Nuclear Society/1965 Annual Meeting, Gatlinburg, Tenn., June 21-24.

MIYAJI — M. C., Dept. 572-3. "Liquid Automatic Particle Counters," ASTM/Committee O Symposium, Chicago, Ill., June 9.

MOFFAT—D. W., Dept. 542-0. "Instrument for Transient Analyses," EMI Subgroup Saturn Systems Checkout Working Group, New Orleans, La., June 2-3.

O'NEILL — R. F., Dept. 966-3. "A Single Evaporative System for Space-Environmental Thermal Control of Electronic Components," IEEE/1965 Aerospace Conference and Exhibit, Houston, Texas, June 20-24.

PALLULAT — H., Dept. 591-4. "Discrete Network Simulation for Detail Fault Isolation and Analysis," IEEE/Automatic Support Systems for Advanced Maintainability, St. Louis, Mo., June 7-9.

ROTHE — Erhard, Dept. 596-0. "Atomic Beam Measurements of Neutral Collisions," Gordon Research Conference on Molecular Beams and Collision Processes, New Hampton, June 14-18.

YANG — C. T., Dept. 572-0. "Cryogenic Temperature Dependence of the Yield Strength of High Strength Alloys," ASME/Metals Engineering - Production Engineering, Berkeley, Calif., June 9-11.

* * *

Presenting papers at IEEE/7th National Symposium on Electromagnetic Compatibiilty, New York, June 28-30, were D. W. MOFFAT, A. H. MILLS, and H. K. MERTEL, all Dept. 542-0.

Presenting papers at Ohio State University, O.N.R./20th Annual Molecular Spectroscopy Symposium, Columbus, Ohio, June 14-18, were C. C. FERRISO, C. B. LUDWIG, L. ACTON, J. C. BREEZE, and W. MALKMUS, all Dept. 596-0.

POMONA

GOLDSHINE — G. D. "High Response Electromechanical Actuator," presented at National Conference, Los Angeles, July 12-15.

Convair Supervisor Gets National Post

Sterling S. Smith, supervisor of receiving inspection in Convair Dept. 143-2, has been elected chairman of the aircraft and missile division of the American Society for Quality Control.

He will be responsible for directing efforts to promote an exchange of ideas in the applications of quality control reliability.

Smith joined Convair in 1942. He is past chairman of the San Diego section of ASQC.

GD/Pomona Scientist Will Give Lectures

Dr. K. J. Kronenberg, GD/Pomona staff scientist, has been invited to present two lectures in a summer science program sponsored by the National Science Foundation at the California Museum of Science and Industry in Exhibition Park, Los Angeles.

Dr. Kronenberg will present lectures on "Industrial Application of Electron Microscopy" at 10 a.m. on both Aug. 2 and 5.

Gunners' Gimmick

Phony Cry of 'Wounded Rabbit' Draws Varmints to Hunters

Two GD/Pomona men sat back-to-back scanning the wild terrain and waited. It was 11 a.m. and minutes before they had made noises that sounded like the screams of an injured rabbit. Their camouflage clothing blended into the background and their boots were covered with a scent designed to kill the human odor.

Suddenly, only 40 yards away, a 22-pound bobcat was spotted atop a boulder staring at them.

This unusual bit of action won top honors for Jim Leaverton (Dept. 6) and Dave Keys (Dept. 63) in the California Varmint Callers Association hunt last month in the Independence, Calif. area. Under a point system, the bobcat was worth 16 points while coyotes (only other varmints taken) were worth only 8 points each.

Varmint calling is a year-round sport gaining in popularity with GD/Pomona Gun Club members. The sport demands an ability to call or attract such predatory non-game animals as mountain lions, coyotes, bobcats and wolves into range of gun or camera.

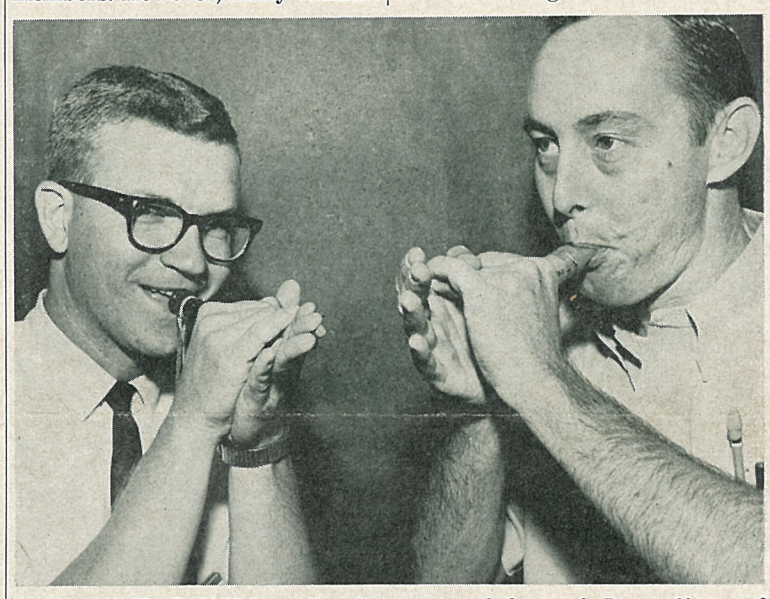
The state association formed six years ago is growing in size and now has approximately 1,000 members. However, many varmint callers are individuals who simply enjoy traveling to remote spots to test skills against the cunning of predators.

Numerous devices or "calls" are available commercially to assist the novice in making sounds similar to those of a small animal in distress. Devices vary as widely as do the more familiar duck calls. Records can be purchased to provide the correct sounds and let the novice hear exactly the kinds of noises made by a rabbit or mouse.

The more experienced varmint callers use a sequence of calls. First is the "attention getter," a loud scream of pain or distress. This is followed by the "scramble," noises imitating an injured animal attempting to escape. Last is the "moan," a weak sound. Calls are audible to animals a mile away.

Approximately 30 attended recent varmint calling classes sponsored by the PRA Gun Club, and 24-hour hunts are planned.

Some varmint callers use camouflage clothing. Others prefer to construct blinds in which they can sit while making calls, waiting, and speculating on exactly what, if anything, might come around looking for a meal.



VARMINT CALLERS — Jim Leaverton, left, and Dave Keys of GD/Pomona demonstrate technique of calling predatory animals into range of gun or camera. Pair bagged bobcat and won first place in recent California hunt.

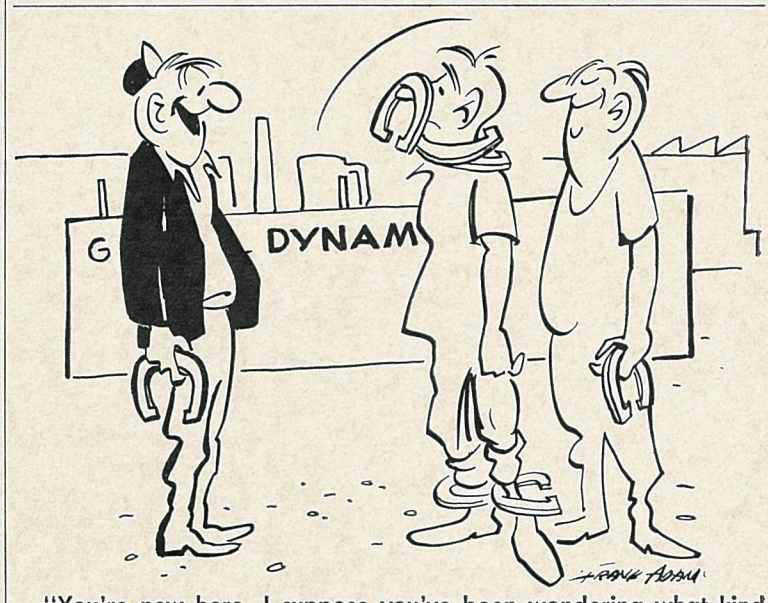
People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

BRYAN L. MURPHY (1955) from Fort Worth to Corporate Headquarters industrial relations, succeeding **BLUCH KAHLA,** now at Stromberg-Carlson; **LAWRENCE H. WAY** (1963) from Convair to Corporate Headquarters accounting.

E. A. THOMPSON (1963) from Fort Worth to human factors, Electronics (Rochester); **JAMES KAY JR.,** (1954) from Convair to General Atomic; **HARVEY L. STERLING** (1952) from Convair to Fort Worth (EAFB); **LAWRENCE McADAM** (1956) from Stromberg-Carlson (Rochester) to AIS quality control reliability GD/E (Quincy); **JAMES E. HANRATTY** (1956) from Convair to Fort Worth maintenance engineering; **THOMAS W. O'HANLON** (1963) from Convair to General Atomic; **ALLAN W. CARL** (1963) from Convair to systems technology, Fort Worth.



"You're new here. I suppose you've been wondering what kind of recreation we have on our lunch hour."

They Work For Convair...

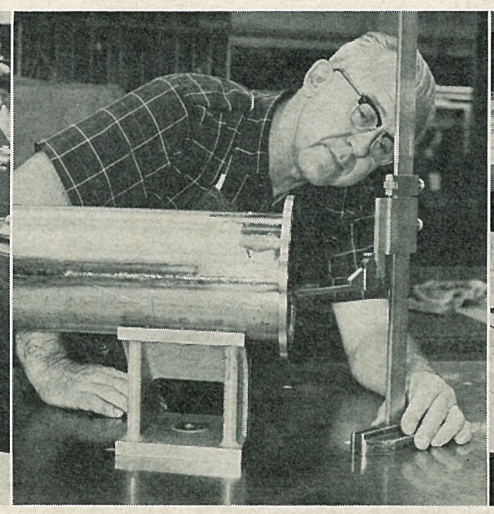
Know these people? Even though their jobs are vastly different, they have one thing in common. They work for Convair.



Karel O. de Veer, one of Dept. 821-2 expediters at Lindbergh Field plant who see that their assigned areas are supplied with what is needed when it's needed, wheels bicycle load of parts from the Bldg. 4 stockroom to Little Joe II production in Bldg. 5. De Veer makes at least a dozen trips a day between the stockroom and experimental operations. He has been with Convair 15 years. Born in The Hague, Netherlands, de Veer was trained as a landscape architect at the Boskoop agricultural school. He immigrated to Canada in his 20s, then to the United States, living in Seattle 18 years before moving to San Diego. He and his wife, Georgia Anne and Karol Jr., live in Point Loma.



Geneva Foster, Dept. 101-6, is one of Convair's key-punch operators. Originally from Texas, she has lived in California six years and has been with Convair for the past three. Geneva learned key-punch skills in a special IBM school. Convair's data processing key-punch center processes (first punch, then verify), about 33 million cards per year. Of these, Geneva punches about 200 per hour. That's a dull routine, you say? "Not at all," says Geneva. "There's all kinds of variety. I like it." Geneva's business career has included being a dental assistant, a hair dresser and an Arthur Murray dance instructor. Her only hobby is sewing. Her husband is in the Navy.



Cliff Brown, machine tool layout man in Dept. 015 at Convair's Lindbergh Field plant, establishes lines for cutting part which will be cold trap of a gas mixing system for a physics lab project. Brown started at Convair as a machinist in 1947 and transferred to layout in 1950. He has spent most of the years since working in the experimental section of machine shop operations at the Lindbergh Field plant. Brown enjoys woodworking in his spare time, using the same skills he has developed on his job to turn out furniture for his La Mesa home where he lives with his wife, Roselyn. Their only daughter is married with a home of her own.



Gertrude Duffy, Dept. 128-0, is Convair library's foreign language translator. She received her BA in languages at Wayne State University in Detroit where her major was German and her minor was Russian. She also translates French and Serbocroatian. Born in Yugoslavia and interned in Germany during World War II, Gertrude came to the United States in 1951 under a quota in the displaced persons (DP) program. (Gertrude says DP really means Delayed Pilgrim!) Ninety-five per cent of her translating is in technical subjects. All of her work eventually is sent to the Translation Center of the Special Library Association in Chicago. Gertrude's husband, Tom, is in Dept. 532-1.



UNDERBRUSH AWARD — Mrs. Vera Bishop, secretary to Larry Messacar, chief of cost control for GD/Convair at Cape Kennedy, receives an Operation Underbrush award from Messacar for her cost saving suggestion.

Employe Suggestion Payoffs Limited To Ideas Not Connected to Own Job

Convair uses both Employe Suggestions and Cost Reduction Proposals for employes to propose improvements in the division's way of doing business.

Employe Suggestions, when adopted, earn the suggester cash awards. However, eligibility rules are stricter for ESs than for CRPs. Briefly, an employe is not eligible for an ES award if the suggestion pertains to the job he is hired to do.

CRPs are used to recognize and commend the many valid suggestions of employes who find a better way to do their jobs, or ways to improve a company-sponsored project.

Complete eligibility rules for Employe Suggestions are on the back of ES forms. Forms may be obtained from the gray metal boxes located through all plants. Information on CRPs may be obtained from E. D. Heller, Kearny Mesa ext. 2467.

Prefixes For Dialing Inter-Plant Changed

Changes in phone prefixes between Convair plants went into effect this month.

Now, to reach Kearny Mesa or Sycamore Test Site from Lindbergh Field plant or Plant 19, dial 8 and plant extension. To reach Rose Canyon from Lindbergh Field, dial 852, then extension. From Rose Canyon to Kearny Mesa or Sycamore, dial 5, plus the extension number.

SD Weight Engineers To Meet at Sands

San Diego Chapter of the Society of Aeronautical Weight Engineers will meet next Thursday, July 29, at Sands Hotel, Kearny Mesa Road, with social hour at 6 p.m. and a buffet dinner at 7.

Dahl Marshall of the brokerage firm of Dean Witter & Co. will speak on the "Summer Stock Market" and show a film on the New York stock exchange.

Women's Golf Club Committees Named

Key committees and chairmen for the General Dynamics Women's Golf Club during the 1965-66 season have been named by Margaret Clark, incoming president.

Marge Gibson will serve as tournament chairman with Nell Bartlett responsible for handicaps; Jeanne Hawthorne, prizes; Irene Torrible and Florence Kell, rules.

Ora Carpenter is membership chairman; Jean Mishall, hospitality; Doris Parker, publicity; Joy Ward, social; Jerrie Cooper, telephone; Betty Jackson, ways and means; and Mary Ransom, historian.

Installation of new officers was held July 14 at Joy Ward's home.

Kitchell Bags Cash With Perfect Shoot

A Convair nimrod, Charlie Kitchell, shot down the big money at CRA Gun Club's Fourth of July Troy shoot to clean out the pot.

He shot 50-straight, 25 in 16-yd. event and 25 in handicap, for total cash winnings of $42.25.

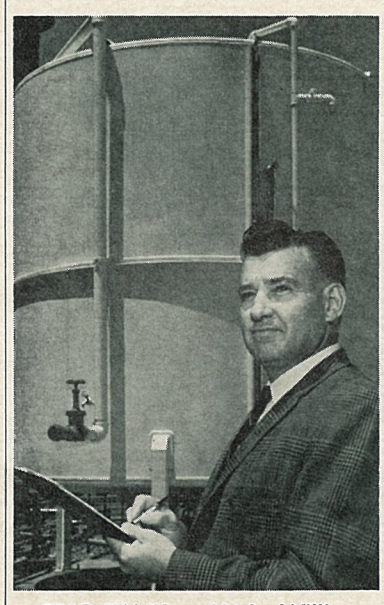
Other sharpshooters crowded close on Kitchell's heels in all contests. He was forced to split the purse for 25-straight in 16-yd. with U. Bagsby and wound up in a three-way tie with Jack Smalley and Jack Swank in handicap.

Discount Increased On Show Tickets

A more attractive discount to Circle Arts Theatre productions has been arranged through CRA with regular prices now cut by a third.

New reduced prices are $3.30, $2.85, $2.35, and $1.85.

Today is the last day to buy tickets at any GD employe services outlet for this Friday's (July 23) performance of "Camelot." Tickets also are now on sale for the Aug. 6 performance of "Irma La Douce," starring Patrice Wymore and Robert Ellenstein.



TRIC TANK — H. L. Williams, supervisor in Convair Dept. 732-0, calculates $33,000 saving from his cost reduction proposal which resulted in bulk storage tank (background) for trichlorethylene. "Tric tank" saves transportation, inspection, storage, and handling costs involved with 55 gallon drums and also allows purchase of trichlorethylene at bulk prices.

Hydrogen Fire Detection Device, Convair Developed, Now in Use

A GD/Convair-developed device which represents a major advance in detection of invisible hydrogen gas fires is in use at Linde Gas Products, Los Angeles.

The safety device, called a hydrogen fire detection system, is used by Union Carbide Corp.'s Linde division to "watch" a liquid hydrogen immersion pump on a 13,000-gallon hydrogen tank to provide instant detection in the event of fire.

Hydrogen is invisible and odorless, making detection of burning hydrogen a major problem for users.

A portable unit has also been developed by Convair. This lightweight unit can be hand-held by workers who must work close to hydrogen storage or test facilities.

The detection device developed by Convair is a solid-state electronics unit using infrared heat-sensitive equipment.

The unit used at Linde Gas Products is designed to function indefinitely with no maintenance of any kind.

CRA Table Tennis Tourneys Slated

Nine "ping pongers" are keeping the CRA table court busy three nights each week, said Commissioner Ray Hardy, who says that registration is still open for the reactivated sport.

Two more tables will be provided to accommodate as many as register. Practice sessions will continue on Monday, Wednesday, and Friday evenings between 4 and 10 p.m. on the CRA Clubhouse auditorium stage.

As soon as players are classified according to ability, tournaments will be scheduled and formal instruction held for beginners.

Hardy may be reached at Kearny Mesa ext. 2549 for details. Call Hardy; Bob Herold, Kearny Mesa ext. 3392; or CRA Clubhouse, ext. 1111, for signing.

Tickets Go on Sale For Charger Opener

Football fans will be starting the season early with tickets now on sale at all GD employe services outlets for the first Chargers pre-season game Aug. 7. Since the game with Oakland is a benefit for the Boys and Girls Aid Society, no discount is offered. Tickets are selling at regular price of $3.50.

Admission to all other Chargers home game will be reduced to $2.50 for GD people. Next game is Sept. 11 with the Denver Broncos.

Dozen CRA Hams Join National Field Day

A dozen CRA radio hams manned the club's annual Field Day location over the weekend of June 26-27 to make 280 contacts throughout the country in a 24-hour period.

The event is staged yearly by American Radio Relay League.

CRA Radio Club members meet tonight (July 21) at 7:30 p.m. in the Harbor Drive club headquarters.

Coineers to Install New Officers Tonight

Convair Coineers will meet tonight (July 21) at 7:30 p.m. in the Convair cafeteria on Pacific Hwy. for installation of new officers.

Three $5 gold pieces will be given away in the raffle. There will also be a door prize and free "give-away" coin for members, in addition to the usual auction and refreshments.



COMEDY STAR — Lillie Mae Barr, shown with friend, is appearing in "Everybody Loves Opal" at the Mission Playhouse in Old Town, playing Thursday, Friday and Saturday through August. Widely known in San Diego drama circles, Lillie Mae was active in former Astro Players.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for next issue of GD/NEWS is before noon, July 28.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BRIDGE — Master Point tourney July 23; Master Point game Aug. 6, 7:30 p.m., CRA Clubhouse.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COINEERS — Meeting tonight (July 21), 7:30 p.m., Convair main cafeteria, Pacific Hwy.

EXPLORERS — Meeting tonight (July 21), 7:30 p.m., CRA Clubhouse. Weekend outing July 24-25 to Thomas Mountain.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FLYING CLUB — Meeting July 27, 7:30 p.m., Room C, CRA Clubhouse.

GARDEN CLUB — Annual Dahlia Show Aug. 1 Floral Association Bldg., Balboa Park. Open to public without charge from 1 to 6 p.m. No club meeting Aug. 4.

GOLF — Entries open from July 22 to 30 for CRA plant championships Aug. 14-15, 22, 28-29, Cottonwood. Call ext. 1111, Kearny Mesa.

GUN CLUB — Registered skeet shoot Aug. 7-8. ATA trapshoot July 25. Club shoot Aug. 1.

HI-FI/MUSIC — Meeting Aug. 10, 7:30 p.m., CRA Clubhouse.

ICE SKATING — GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — CRA shoot 9:15 a.m., July 25, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tonight (July 21), 7:30 p.m., Harbor Drive club headquarters.

TABLE TENNIS — Register with Ray Hardy, ext. 2549; Bob Herold, ext. 3392; or CRA Office, ext. 1111, all Kearny Mesa.

Competition Close In Pistol Matches

Bill Geopfarth and Don Smock came within one bull's-eye of tying for first in master class of Police Course competition at CRA Pistol Club's July 11 matches.

They both scored 290 but Geopfarth's 13 Xs edged Smock's 12 to put him in top spot.

Carl Jensen shot a 281 to take the expert division, trailed just three points behind by A. C. Greeley. Sharpshooter class was won by Byron Clapper with a 274. Bill Worthington was second with 265.

Smock won the .22-cal. Short National with a score of 286. Jim Halfacre and Commissioner Joe Williamson tied with 280s but Halfacre's 4 Xs gave him second place over Williamson's 3 Xs. Geopfarth was fourth with 274.

Starlight Tickets On Sale, 30% Off

Exchange tickets, allowing a 30 per cent discount to all Starlight Opera productions this season, are available at GD employe services outlets at Convair, GD/E, and Stromberg-Carlson.

They may be exchanged for tickets to Thursday and Sunday night performances at the downtown box office in Thearle Music Co., or at Balboa Park Bowl on weekend afternoons or performance nights after 6:30 p.m.

Performances and discount night dates are: "Carnival," July 15, 18, 22, 25; "Little Me," Aug. 5, 8, 12, 15; and "Peter Pan," Aug. 26, 29, Sept. 2, 5.

Sports & Recreation



SPIKED — Jim Field, chief of employe services at GD/Convair, drives "golden" spike to mark completion of three-year model railroad project in CRA Missile Park.

Marvelous Model RR Project Dedicated

(Continued from Page 1)

master of ceremonies.

Stutz, recalling the history of the train building project, said that in the beginning, no one realized the magnitude of the task. "For instance," he said, "when Tom Buckley and Leo Heyob first presented the idea to the Recreation Council, I said we could do the entire thing in six months!"

Stutz commented that there were times when he wondered what the payoff of the project would be. "But each time I watch a child get off that train, I know what the payoff is," he said.

Field, who praised the many workers who had given their time to the project over the three-year span, took the occasion to appoint Ed Stevens and Tom Buckley railroad commissioners.

The train rides over approximately 3,500 feet of 12-pound, 30-foot rails which are secured to approximately 4,800 wood ties and held in place by 20,000 spikes. About 2,600 feet of track is used for mainline operation; the remainder is for yard, storage, and service.

The 4,000-lb. locomotive is powered by a Chevy II engine. The locomotive and the cars were fabricated almost entirely from raw stock obtained from Convair's salvage yard or local supply firms.

Jim Field summed up the project's deeper significance, quoting the poet Wordsworth, "Enough if something from our hands have power, to live and act, and serve the future hour."

Repeat Las Vegas Journey Arranged

A repeat trip to Las Vegas has been arranged for all GD people by popular demand. Over 200 filled six buses for a weekend at the Nevada gambling capital last month.

Next trip will be over the weekend of Aug. 27-29 with sign-up to begin tomorrow at CRA Clubhouse, Kearny Mesa, ext. 1111.

The $25 package deal includes round-trip transportation by de luxe Greyhound bus, two nights at the Stardust Hotel. In addition, as extra bonus, vacationers will be treated to an afternoon and evening "on the house" at the Mint Casino. Each will be given $5 to try his luck at the game tables, with lunch and buffet dinner thrown in. The evening will be spent at the casino's night club, Watusi Theater.

Another Las Vegas jaunt will be set up for the weekend of Sept. 9-11 for those who can not make the August trip, if enough express interest.

WIVES PLAN BUFFET BEFORE FRIDAY PLAY

Convair Wives will attend the Friday (July 23) performance of "Camelot" at the Circle Arts Theatre in a group after a buffet dinner at Sands Hotel. For reservations call Shirley Jensen, 422-4517, or Colleen Major, 277-3695.

Annual Dahlia Show Aug. 1

CRA Garden Club's annual Dahlia Show, biggest event of the year for Convair gardeners, will be Sunday (Aug. 1) in the Floral Association Bldg., Balboa Park, with 81 classifications open to exhibitors.

Best-of-show awards will go to best dahlia, best large dahlia, medium, smallest, largest, three pompons, three miniatures or balls, best fruit, vegetable, arrangement, and corsage, and best children's entry.

Besides the major classes in dahlias, other divisions are open to citrus and deciduous fruits, vegetables, besides various types of arrangements and corsages.

This year, for the first time, children between 5 and 11 years, and 12 to 16, may enter either arrangements, or any other type of entry in two different classes.

Certified dahlia judges from Southern California dahlia organizations and qualified judges from the San Diego Floral Arrangers Guild will judge the displays, said Commissioner Everett Henderson.

Entries will be accepted at the show building on Saturday (July 31) from 7 to 10 p.m. and on Sunday (Aug. 1) from 7 to 11 a.m. After judging doors will be open to the public, free of charge, from 1 to 6 p.m.

At Least Ten Bowling Leagues Will See Action This Winter

Bowling leagues for the winter keg season are now organizing with at least 10 leagues open to Convair, GD/E, S-C bowlers under CRA sponsorship and three for Management Club members.

CRA leagues already scheduled and open for entries are:

Tuesdays, 6:15 p.m.—Clairemont Bowl, Mixed League; Parkway Bowl, Mixed League.

Wednesdays, 6:15 p.m. — La Mesa or Lemon Grove alleys, Mixed League.

Thursdays, 6:15 p.m.—Frontier Lanes, GD/E Mixed League; Pacific Recreation, 800 Mixed Scratch; Victory Lanes, Mixed Foursome; La Mesa, AF Mixed League.

Fridays, 6:15 or 6:30 p.m. — Clairemont Bowl, Mixed League; Pacific Rec, 850 Men's Scratch.

Saturday mornings — Clairemont Bowl — Convair Swing Shift Mixed Foursome.

Management Club-sponsored Leagues will be Mondays, 6:30 p.m. at Clairemont and Parkway Bowls, 800 Men's Scratch, and Tuesdays at Parkway, Mixed League.

Commissioners Forest Erwin, Mike Brooks, Jim Hayman will take entries, or call CRA Clubhouse, ext. 1111, Kearny Mesa.

Kobets' 75 Low In Golf Tourney

George Kobets (Dept. 031) was low gross and Jack Nichols (Dept. 591), low net, in CRA's Fourth of July links tourney at Balboa. Kobets scored 75 and Nichols, 67.

Second low gross of 81 in the 0-14 flight was shot by Mark Pruitt of Dept. 957. Harry Bodwell of Dept. 420 stroked 68 for second low net.

In the 15-19 flight R. V. Marlowe of Dept. 197 was low gross scorer with an 82. Second low gross was G. G. Guthrie (Dept. 451), 85. D. J. Campbell (Dept. 420) and E. J. Bauer (Dept. 250) tied with 68s for low net honors.

In the 20-and-over flight Ed Hansard (Dept. 587) shot 90 for low gross; F. H. Skilton (Dept. 584) was runner-up with a 93.

D. J. Buck of Dept. 250 was low net with 69. Ed Schwartz of Dept. 584 and Mrs. Fox, wife of E. Fox (Dept. 190), tied with 70s for second low net.

Entries Open For CRA Golf

Entries open tomorrow (July 22) for the annual CRA plant golf championships to be held over three weekends in August at Cottonwood.

The first 144 golfers who sign will participate, said Commissioner Ken Wulfemeyer. Registration closes July 30.

First round of match play, with 16 golfers to each flight, will be Aug. 14 and 15; second round, Aug. 22; and third and final rounds on Aug. 28 and 29.

Each player must have played in at least three monthly CRA tournaments since July, 1964.

First-round greens fees of $5 must be paid by Aug. 6 at CRA Clubhouse, Kearny Mesa, or employe services outlets at Lindbergh Field plant and AF Plant 19. Greens fees will not be refunded if contestants fail to show up at assigned starting times.

Convair golfers may reserve spots in the tourney by calling ext. 1111, Kearny Mesa.

Custom Rod-A-Rama Show Price Reduced

Car fanciers may see the coming Custom Rod-A-Rama auto show Aug. 19-22 at the San Diego Community Concourse at reduced prices through 50-cent discount tickets now on hand at all employe services outlets. Regular admission is $2.

Over 100 displays of hot rods, custom cars, boats, motorcycles, race cars, sports cars, classics and antiques will be exhibited. Featured will be Steve Scott's "Uncertain T," Wells and Lee's "$69,000 Continental Classic," and "Big Daddy" Roth's "New Outlaw." Globe Pacers Car Club of San Diego is sponsor.

Bowling Instruction Starts This Saturday

Free bowling instruction will start this Saturday (July 24) for GD/Convair people and their families at Lindo Lanes in Lakeside, announced Co-commissioner Forest Erwin.

Instructors will be on hand to coach from 6 p.m. until midnight on Saturday evenings through Aug. 28. Group instruction also will be available. Bowling balls and shoes will be furnished at no charge.

ID cards must be presented at the alleys.

Call Erwin, Kearny Mesa ext. 2884, or Lindo Lanes, 448-4400, to register.

Explorers Will Trek To Thomas Mountain

CRA Explorers will journey to Thomas Mountain in the San Bernardino National Forest this weekend for a couple of days of roughing it away from city streets.

Larry Lesh will lead short hiking excursions and Norman Baird will conduct a campfire program, said Commissioner Dick Bowen.

Campsite is about 110 miles from San Diego off the Palms to Pines Hwy. on the road from Anza to Idyllwild. Full details will be discussed at tonight's (July 21) meeting, 7:30 p.m. in CRA Clubhouse.

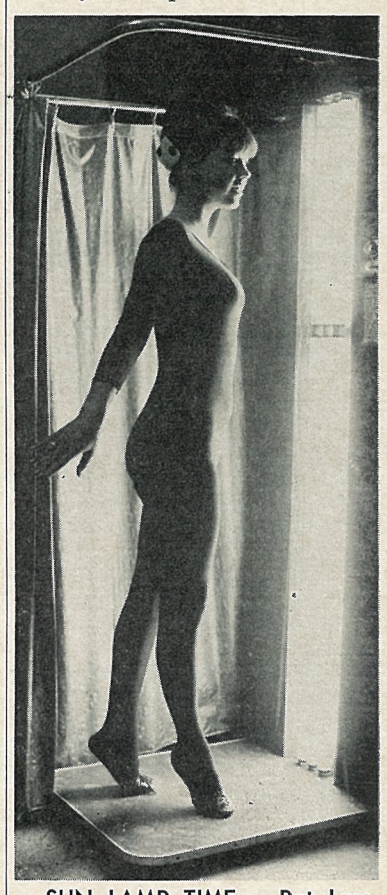
Health Club Hours At Clubhouse Set

CRA Health Club hours at CRA Clubhouse, Kearny Mesa, are:

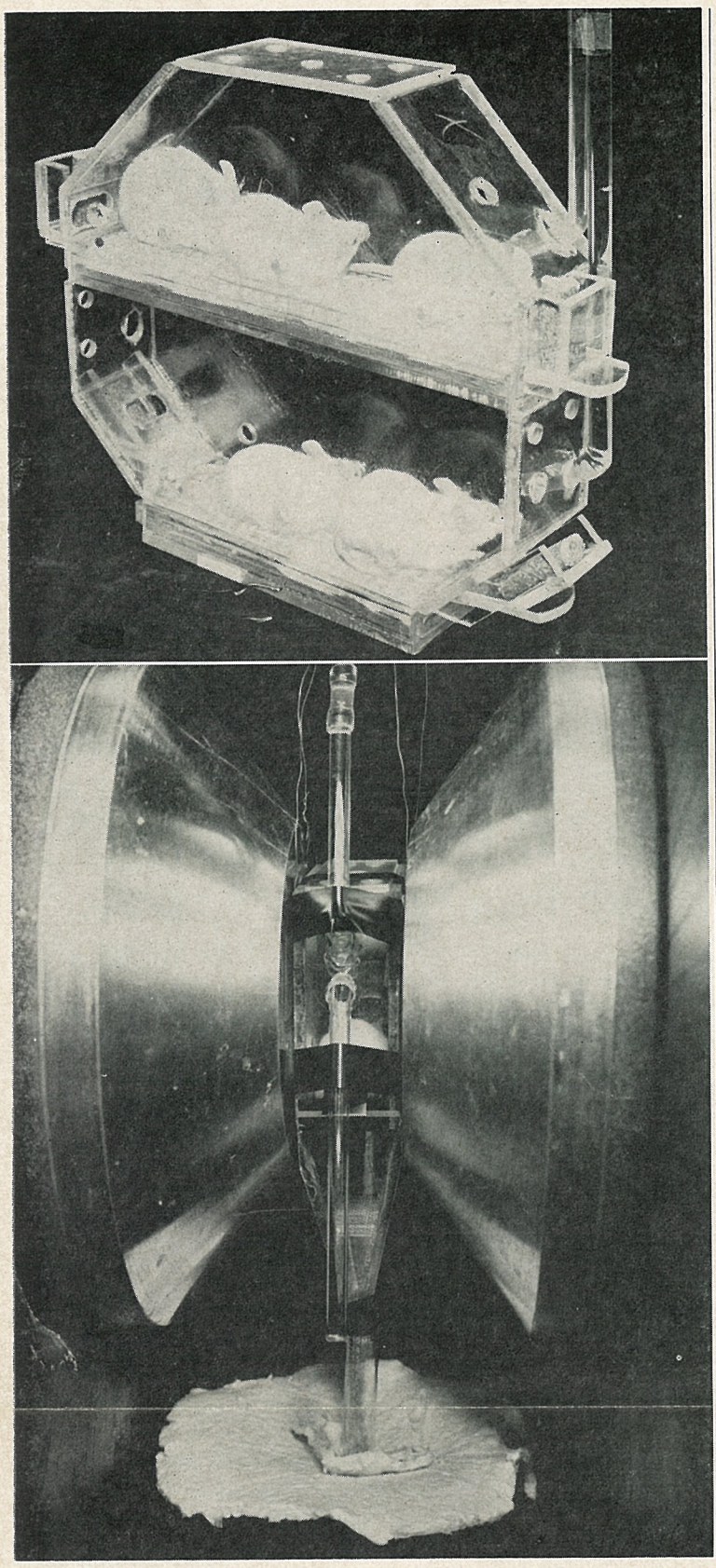
Women only, Monday through Friday, 9:30 to 11:30 a.m. Men only, Monday, Wednesday, and Friday, 4:30 to 10 p.m.

Family (or men and women), Monday, Wednesday, and Friday, 11:30 a.m. to 4:30 p.m.; Tuesday and Thursday, 4 to 10 p.m.; and Saturday, 10 a.m. to 5 p.m.

For more information call Frank G. Echevarria, ext. 1111, Kearny Mesa plant.



SUN LAMP TIME — Pat Lamoureux, physical education major at San Diego State and woman manager for Convair's Health Club, demonstrates new full-body length sun lamp installed in CRA Health Club at Kearny Mesa plant.



"MAGNETIZED" MICE — In upper photo, white mice live in plexiglas cage which (lower photo) is mounted between poles of electro magnet, creating high magnetic field environment for GD/Fort Worth studies. Theory is that magnetic field might provide protection against radiation for space travelers. Preliminary results show no pronounced effects on mice, though their appetites increased and they gained weight. Researchers hope to extend experiments to higher-life animals and, eventually, to humans.

Double For Humans

Mice Living Inside Magnetic Field In Space Environmental Studies

Can humans live for long periods in a high magnetic field environment without harmful effects?

The question is more than academic to research scientists at GD/Fort Worth. High magnetic fields may afford protection against radiation for space bound travelers of the future and may be associated with some forms of power-generation equipment.

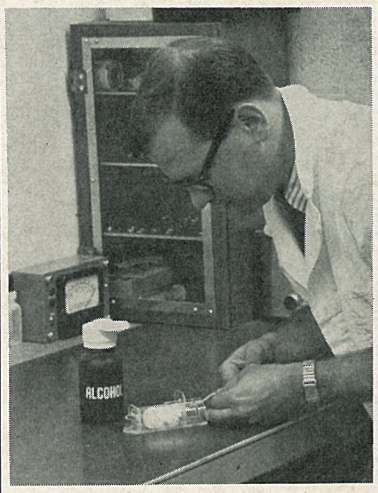
To help find the answers, Dr. Garry Hanneman, senior research scientist in GD/FW's Applied Sciences section, is subjecting white mice to a series of experiments.

"So far, we've discovered no pronounced adverse effects," Dr. Hanneman said. "But of course it's too early to draw definite conclusions."

The magnetic field is created by passing an electric current through coils of wire surrounding an iron core. A gap in the core enables a very high magnetic field to develop; mice are placed in this field in specially built plexiglas "houses."

In one test, urine from mice was collected over a 24-hour period and analyzed to determine if the magnetic field environment affected some of the "ions" of body fluids. Result: a slightly increased elimination of sodium, potassium and calcium ions.

Another test was made to determine if the field affected the animals' weight, or their eating and drinking habits.



SAMPLE — Dr. Garry Hanneman, GD/Fort Worth senior research scientist, takes blood from mouse that has been exposed to high magnetic environment. Blood count reveals effects of experience.

For this experiment, five mice were exposed for 24 hours. Finding: the subjects gained weight and ate and drank more than normally. Further, a blood count revealed no appreciable change in red cell count, but an increase in white cells was noticed during the 28-day examination.

A physio-psychological experiment was made to see if high-magnetic stress would affect the senses, especially vision.

To qualify for the test, mice had to select the white (reward) door rather than the green (punishment) door of a maze for a minimum of 25 consecutive trials.

After exposure to a rather intense magnetic field, the mice did "rather well"; three made only one mistake; two made no mistakes in selecting the right "color" door.

"To date, experiments have been interesting, but preliminary," Dr. Hanneman said. "We'll have to conduct much more research—eventually with higher-life animals — before man can be subjected to serious experimentation."

Most of the experimentation—and facilities themselves—are being conceived and built by Applied Sciences personnel.

A Glance to the Past

(General Dynamics divisions have a remarkable history as their heritage. The roots go back many, many years and the exploits and accomplishments are irrevocably linked with the country's industrial past.)

85 Years Ago
1880

William Woodnut Grissom, inventor and electrical pioneer destined to form Electro Dynamic Company, obtained a patent on his electric motor (May 18, 1880).

"Fenian Ram," 31-foot pioneer submarine, under construction in New York City. Inventor is John P. Holland, gifted Irishman, who 20 years later will be among founders of Electric Boat. Project is financed by Fenian Society, Irish revolutionary group.

80 Years Ago
1885

Alfred Stromberg and Androv Carlson, engineers of Swedish descent, organize their own telephone equipment company, with a capital of $50,000. The year before they had formed a partnership, each contributing $500 to the venture.

70 Years Ago
1895

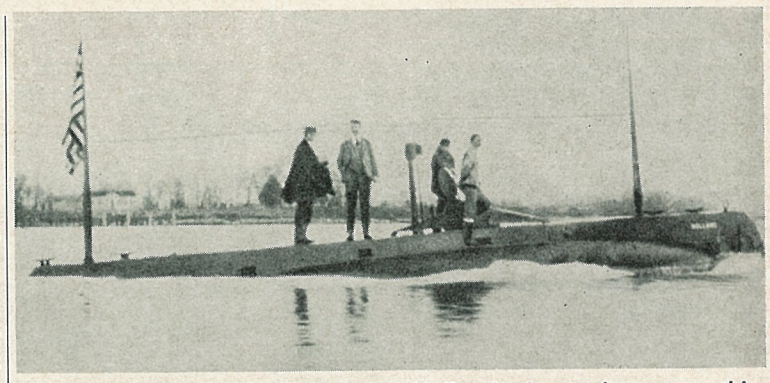
Edson Gallaudet is working on his doctorate in electrical engineering at Johns Hopkins. It will be eight years before he forms Gallaudet's Engineering Company, Convair's earliest ancestor.

65 Years Ago
1900

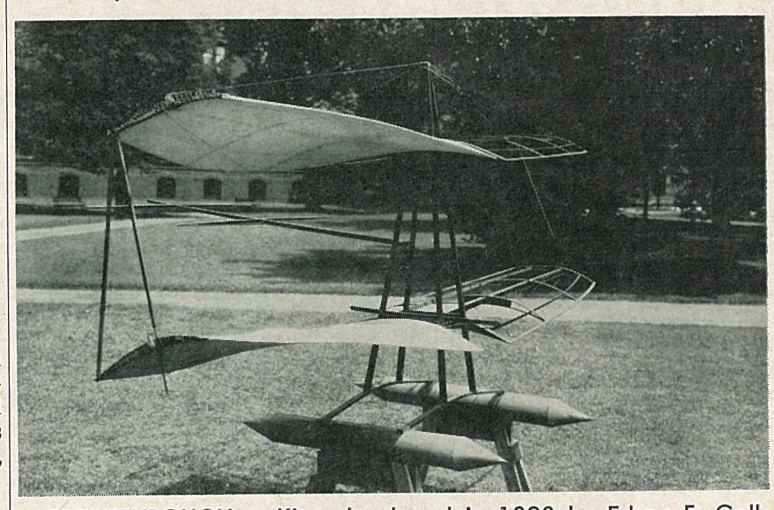
The submarine Holland is purchased by the U. S. Navy (April 11) from Electric Boat Company and is on maneuvers with the Atlantic Squadron off Newport. The Holland is the Navy's first submarine. Her acquisition is a triumph for the persistence of her inventor, John P. Holland, and the salesmanship of lawyer-financier Isaac Rice who had merged the Holland Torpedo Boat Company with Electric Launch Company to form Electric Boat. Important in the sale was a series of exhibition dives conducted in the Potomac River in full view of Washington officialdom. Although there was strong opposition, Congress authorized six more boats June 7.

55 Years Ago
1910

William T. Thomas, English engineer, completes construction of his first airplane at Hornell, N. Y. Plane has 22 hp engine. With his brother, Oliver, he will form Thomas Brothers Aeroplane Co. the following year.



UNDER WAY — The submarine Holland plows along smoothly. Exhibition dives in Potomac river in 1900 resulted in purchase by U.S. Navy.



BREAKTHROUGH — Kite, developed in 1898 by Edson F. Gallaudet, included his conception of warping wing. Had he fully developed the conception he might have been first to achieve heavier-than-air flight, for the Wright Brothers did not hit upon the warping principle until the following year.

50 Years Ago
1915

Electric Boat is busy on a British order for 20 submarines, small, rugged H boats. To avoid neutrality restrictions, components are shipped to Montreal for assembly by skilled EB and Bethlehem workmen at Vickers plant. Ten are assembled in record six months, cross Atlantic under own power to join Royal Navy in Baltic and Mediterranean. EB stock booms on New York market.

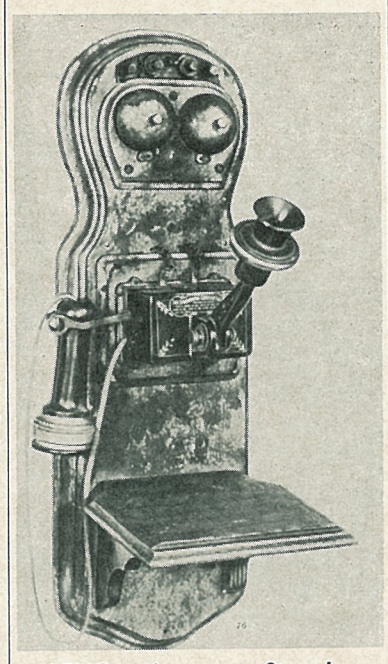
45 Years Ago
1920

Four DH-4 biplanes, rebuilt by Gallaudet for U. S./Air Services, fly first air expedition to Alaska, arriving in Nome Aug. 25.

40 Years Ago
1925

Shipbuilding begins at Groton for first time with three ways constructed for Peruvian submarine order. (Previously, Electric Boat-designed subs were assembled at Bethlehem's Fore River yard.)

PT-1 trainers in production at Consolidated Aircraft factory in Buffalo. (Consolidated formed in 1923, combining assets of Gallaudet Aircraft and engineering talent of Dayton-Wright Co.)



RELIC — It was a Stromberg-Carlson telephone that was used to summon ambulance when President McKinley was shot.

35 Years Ago
1930

Stromberg-Carlson's radio business volume for first time surpasses that of its telephone business.

Electro Dynamic observes 50th anniversary, introduces new line of electrically welded "Weld Built" DC motors.

Consolidated Aircraft moves from Buffalo to San Diego, bag and baggage (157 carloads). Navy orders 60 ~~PYBs.~~ PBYs. 1935

30 Years Ago
1935

Submarine Holland sold for $100 as scrap when Starlight Park in Bronx, where it had been on exhibit since 1916, is sold.

25 Years Ago
1940

B-24 program under way at Consolidated plant in San Diego.

President Roosevelt visits Electric Boat; four new ways under construction in North Yard.

20 Years Ago
1945

Convair's vast wartime empire cut back to five divisions as defense orders are abruptly cancelled.

Convair twin-engine transport program launched.

15 Years Ago
1950

Electric Boat undertakes task of designing and building world's first atomic submarine at request of Capt. (later Admiral) Hyman G. Rickover.

10 Years Ago
1955

General Atomic division established to undertake basic research, development and production in nuclear energy.

USS Nautilus "under way on nuclear power" (Jan. 17).

Shareowners approve merger of Stromberg-Carlson into General Dynamics.

Orders mount for new Model 440 Convair-Liner.

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 16 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 4, 1965

New Hard-Surface Parking Replaces Temporary Lots

Permanent parking for Convair employes at Lindbergh Field plant has been expanded with the completion and opening of two large new lots bordering Pacific Hwy. under the new freeway access.

There are now five lots, all close to the plant, for general employe parking, as well as three reserved lots.

Paul Veal, chief of industrial relations, Lindbergh Field plant, expressed his appreciation for the cooperation and patience of all Lindbergh Field drivers during the last year when employe parking has been limited to temporary lots due to freeway construction.

"We realize that the situation has been difficult," said Veal, "and your forbearance is appreciated."

General lots are: No. 1, between Kettner Blvd. and the railroad tracks on the north side of Sassafras St.; Nos. 3 and 4, new lots

(Continued on Page 2)

'Centaur on Saturn' Project Discussed

GD/Convair and NASA met recently at Convair's Kearny Mesa plant to discuss the design and production of the "Centaur on Saturn" launch vehicle.

In addition to NASA's San Diego representatives, NASA personnel came from the Marshall Space Flight Center in Huntsville, Alabama; the Lewis Research Center in Cleveland, Ohio; and NASA's Washington, D.C., offices.

R. D. "Duff" Ginter, NASA's Headquarters program manager for Centaur, headed the group from Washington.

Craftsmanship Winners Named

Craftsmanship winners for the month of June in Convair's pioneering "Do Good Work" program were Dept. 759, sub-assembly and mockup, at the Kearny Mesa plant; Dept. 031, experimental, at the Lindbergh Field plant; Dept. 576-33, fabrication and maintenance shops, at VAFB; and Complex 14 at Cape Kennedy.

Quality indexes for the winning departments were 116.5 for Dept. 576-33; 112.9 for Dept. 759; 108.1 for Complex 14; and 107.5 for Dept. 031.

This marked the first win for Depts. 759, 031, and 576-33. Complex 14 won its first Craftsmanship plaque in December, 1964. Dept. 031 had come close a couple of times, as runner-up in April and in third spot in May.

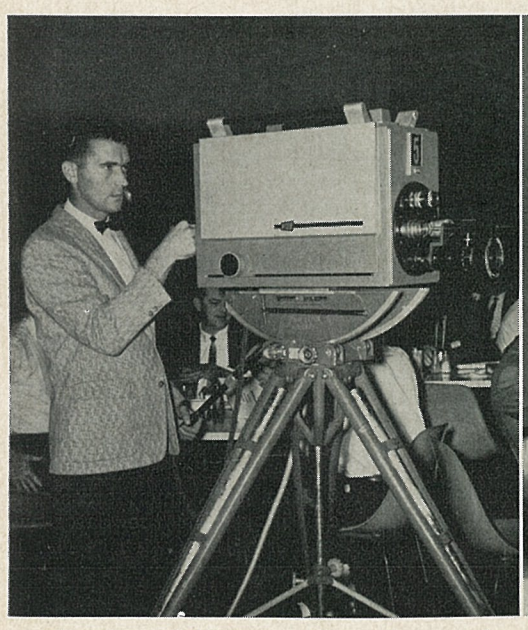
James R. Dempsey, Convair president, presented plaques to the winning departments at both Kearny Mesa and Lindbergh Field plants. Fred E. Grossher, general foreman, accepted the plaque for Dept. 759; Clarence Strand, foreman, took the plaque for Dept. 031.

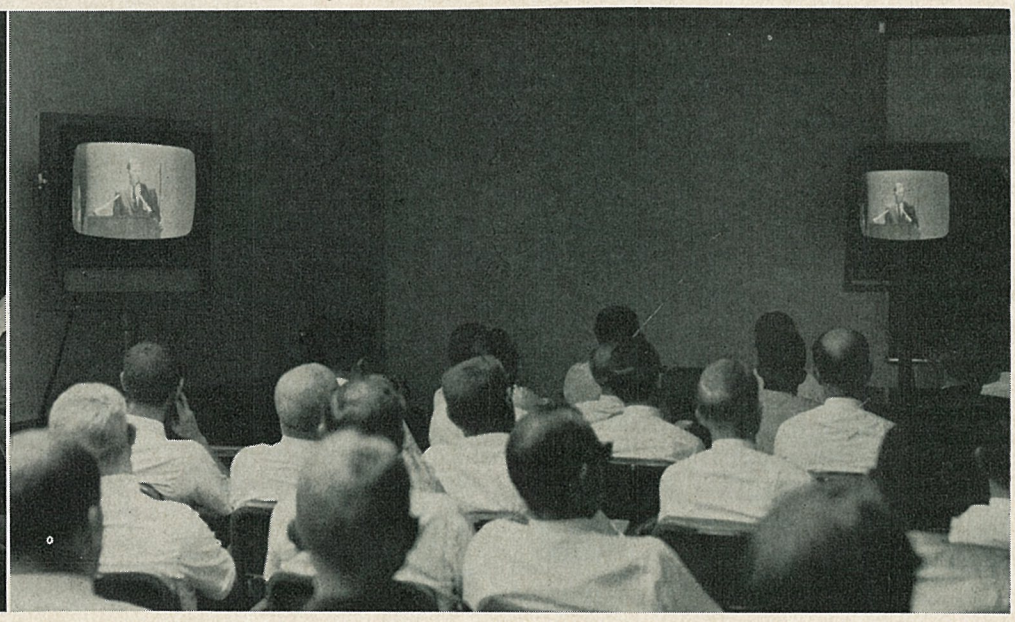
Dempsey told the 130 members of Dept. 759 that during June they had submitted 5,230 parts to inspection, and that only 101 of them were rejected. "This means," he said, "that some of you made no mistakes all month." Dempsey thanked the group for their attitude toward craftsmanship and their success in fabricating flawless parts by saying, "You're building reliability, and reliability in the product is our business."

In presenting the award to experimental department at Lindbergh Field, he pointed out that the department had drastically reduced its defects — from 273 in March to 73 in June.

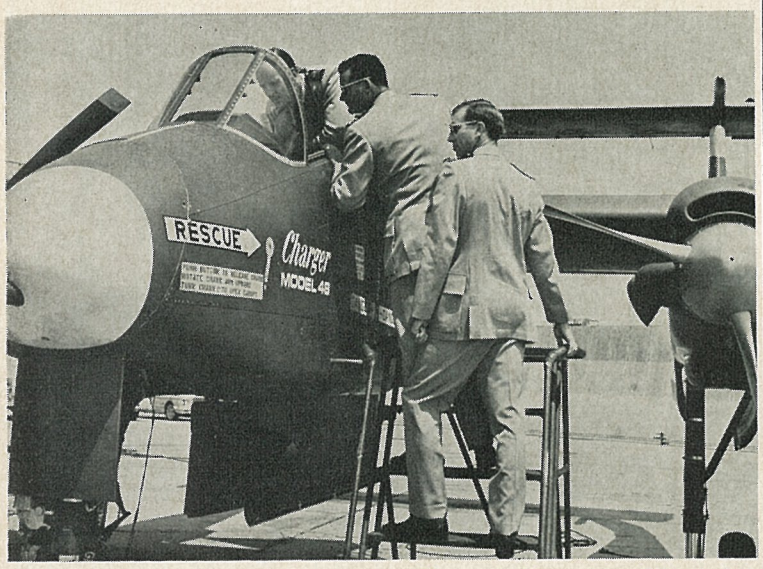
"That is less than one mistake for 100 manhours of work!" he

(Continued on Page 2)





GETTING TOGETHER — From time to time, Convair President James R. Dempsey holds supervision management meetings as important events warrant. Last month there was a new twist. Because of importance of subject (five-year forecast), talk was taped for later showing. At right, film is screened for Convair folk at Vandenberg AFB. At left, Leonard C. Showalter of Dept. 124, shoots original gathering at Kearny Mesa plant. Tape was also sent to Cape Kennedy.



VISITORS — Cdr. E. V. H. Manuel (in cockpit) and Lt. Cdr. A. W. Roberts of British Navy Staff, Washington, D.C., and Lt. D. A. Borrowman, Royal Navy pilot, inspect Convair's Charger during mid-July visit to San Diego for briefing on products of GD/Electronics and Convair.

British Naval Officers Inspect GD Products on San Diego Visit

Three British Naval officers were briefed on General Dynamics products at Convair and Electronics divisions last month as they made a one-day stop in San Diego during a country-wide familiarization with U. S. military programs.

Cdr. E. V. H. Manuel and Lt. Cdr. A. W. Roberts of the British Navy Staff at Washington, D. C., were joined by Lt. Douglas A. Borrowman, Royal Navy pilot stationed at Miramar NAS under the pilot exchange program. Cdr. Manuel was making the inspection tour just before returning to London the first of this month to be attached to the Ministry of Defense-Navy.

While at GD/Electronics they saw and were briefed on the division's Terrain Following Radar and Aircraft Station Keeper. Moving over to Convair's Lindbergh Field plant they inspected the Charger and Convair 600 prototypes.

L. W. Gordy and R. L. Wintringer of Convair and J. N. MacInnes of Electronics coordinated the visit.

Salvage Schedule Given For August

Convair salvage yard schedule at Kearny Mesa and Lindberg Field plants for the month of August is:

Kearny Mesa—Aug. 7, 21.

Lindbergh Field—Aug. 14, 28.

Direct-View Console Ordered by GD/Pomona

Stromberg-Carlson Corp.'s Data Products division at San Diego will supply a unique direct-view display console to GD/Pomona under a $138,000 contract.

It is capable of simultaneous but independent presentation of data from two sources.

Processed data received from a digital converter is displayed as alphanumerically - annotated point and line plot by the CHARACTRON display generator. At the same time, a second electron gun presents a 729-line, high resolution TV picture.

Pomona will use the equipment in its system development laboratory in a study of shipboard command and control systems.

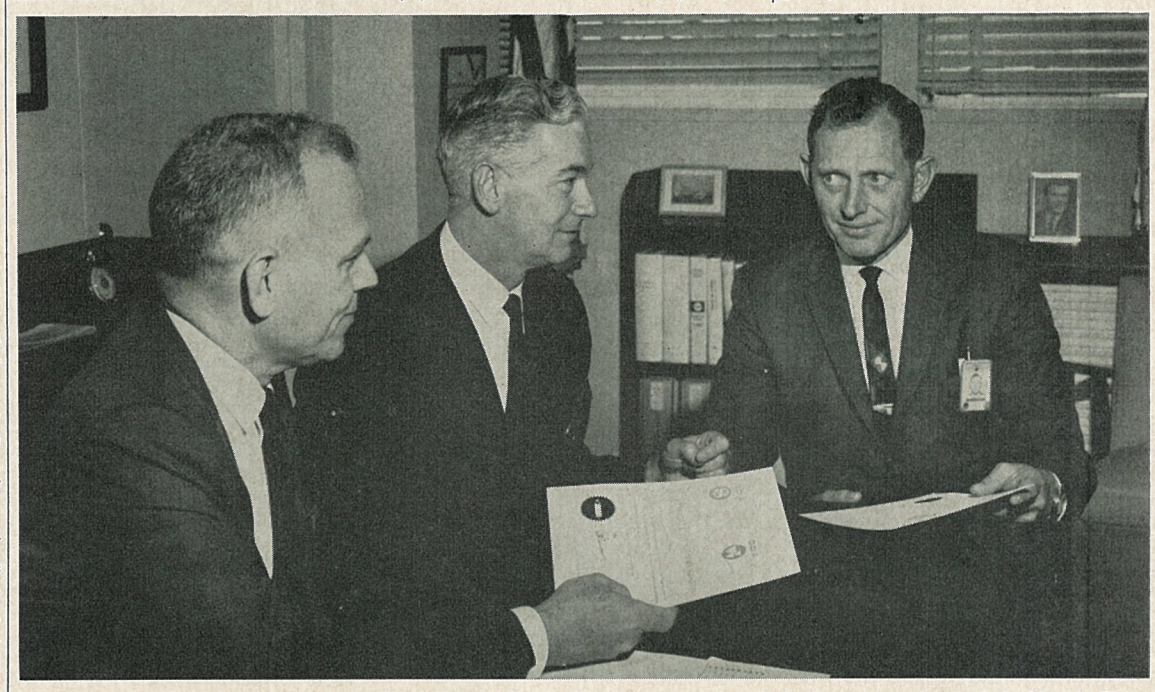
25 Receive Cost Reduction Honors For $715,754 Saving

Twenty-five Convair employes in reliability control organization of P. I. Harr received cost reduction proposal certificates last week. Savings credited to the proposals total $715,754.

J. Y. McClure, Corporate director of reliability, quality control, and value control, presented certificates in ceremonies at the Kearny Mesa plant.

Certificate winners, and the amount of savings credited to their cost reduction proposals were:

Sam Petcher — $1,382; W. H. Kirk — $1,585; W. M. Murphy — $4,482; H. C. Keith — $5,652; R. E. Dubell — $7,450; G. A. Knauss — $7,562; Fred Lay — $9,884; T. W. Reese — $15,041; C. M. Hopper — $15,618; R. K. Schmidt — $18,742; Bob Roberts — $20,462; D. D. Lawyer — $20,549; R. W. Lessard — $20,653; D. R. Nash — $20,688; R. H. Gilliland—$21,087; R. H. Nicholson — $21,445; T. L. Lamoureux — $25,273; Nick Carlton — $33,922; J. F. Baebler — $37,999; B. H. Behrens — $41,308; D. R. Archibald — $42,884; Bud L. Kennedy — $43,677; G. C. Eggen — $79,912; R. H. Sparks — $89,371; and Hal O. Story — $109,126.



CORPORATE PRAISE — P. I. Harr (left), Convair director of reliability control, and J. Y. McClure (center), Corporate director of reliability, quality control, and value control, congratulate H. O. Story, Convair Dept. 146 senior reliability group engineer, on his two cost reduction proposals which total more than $109,000. McClure had earlier given CRP awards to 24 Convair employes for proposals which saved company $606,600.

Log Book Entries

Invention Disclosures

CONVAIR

DORE — F. J. JR. and P. M. SCHROEDER JR., Dept. 581-0. Retractable Turbojet Engines for Inlet Sealing & Engine Protection as Applied to a Reusable Rocket.

DORE — F. J. JR. and P. M. SCHROEDER JR., Dept. 581-0. Center of Gravity Management by Jet Fuel Transfer for a Reusable Rocket.

DORE — F. J. JR. and P. M. SCHROEDER JR., Dept. 581-0. Control Coupling-Rocket Engine Gimbal System & Aerodynamic Control Surfaces.

NELSON — M. and P. M. SCHROEDER JR., Dept. 581-0. Wing attachment Design for Structural & Thermal Isolation & Interchangeability for a Reusable Rocket Vehicle.

SCHROEDER — P. M. JR., Dept. 581-0. Stowable Aft Fairing for a Reusable Rocket.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, Sept. 6, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, Aug. 31, 8 a.m., Bldg. 14 Auditorium; second-shift, Tuesday, Aug. 31, 4:30 p.m., Bldg. 14, Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 4:30-5:30 p.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa. Group 1 and 2: Aug. 2-5, 9-11.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m. - 3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS — H. C. Neel, 16 hours; Tuesday thru Friday, 1:30 - 3:30 p.m., for 8 weeks; Room 6, Bldg. 14, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field.

DRAFTING (UNDIMENSIONED DRAWING) — S. W. Mopps, E. A. Zivolich, W. J. Wood, 80 hrs.; daily 1 - 4:30 p.m.; Bldg. 5 Loft, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field plant.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECK-OUT — Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours; Monday through Thursday, 3:15 - 5:15 p.m. July 26 through Aug. 26. One week on Fortran. Bldg. 17, Kearny Mesa.

ADVANCED AERODYNAMIC HEATING AT HYPERSONIC SPEEDS—Prof. Eugene Stolarik (University of Minnesota). For information call R. E. Tatro, ext. 2462, Kearny Mesa. Ten hours, Tuesdays and Thursdays, 9-10 a.m., July 1 through Aug. 5, Room 2, Bldg. 17, Kearny Mesa. Course material includes practical engineering approaches to assist preliminary design activity.

ENGINEERING FORTRAN (BASIC)—Marvin Bauman. 34 hours; 7-8 a.m.; Monday through Thursday; July 26 - Sept. 22. SLV Conference Room 3, Bldg. 33, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

ENGINEERING FORTRAN (BASIC)—Dorothea Jirauch. 32 hours; 3:15 - 5:15 p.m.; Monday through Thursday; July 26 - Aug. 20. Room 7, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Measa.

COBOL 7010 — Jay Higdon. 32 hours; 4:15 - 6:15 p.m.; Monday through Thursady; July 21 - Aug. 11. K-10 Conference Room, Bldg. 4, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

360 ASSEMBLY LANGUAGE, ACCELERATED — IBM Staff. 30 hours; 8:30 - 10:30 a.m. and 1:30 - 3:30 p.m. (two separate classes); Monday through Friday; July 26 - Aug. 31. Room 7, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486. Kearny Mesa.

AFTER HOURS TRAINING IN-PLANT

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I) — Dennis Suchecki, ext. 1931, Kearny Mesa. Sixty-five hours. Tuesdays, 5:30 - 8 p.m.; July 20 - Jan. 25, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For advanced registration, call Martha, ext. 1931, Kearny Mesa.

CRYOGENIC ENGINEERING — Carl Leonhard. Planned for early Sept. In-plant, after-hours, Kearny Mesa. For reservations call Martha, ext. 1931, Kearny Mesa.

ENGINEERING FORTRAN IV (BASIC)—James Dobrei, IBM. 32 hours; 5-7 p.m.; Tuesday and Thursday; July 27-Sept. 21. Room 2, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

Deaths

CONVAIR

BURKHOLDER — Charles B. Jr., Dept. 954-4. Died July 26. Survived by wife, Ruby D.; son, Stephen; father, sister.

PREEBER — Walter J., Dept. 967-2. Died July 28. Survived by wife, Mary B.; two sons, Bradley J. and Gregory J.; parents, and a sister.

ROLLINS — O. W. Jr., Dept. 225-0. Died suddenly July 14. Survived by wife, Mary Jean; one daughter, Margaret; two sons, David and Robert.

VANDENBERG AFB

JACOBS — R. V., Dept. 576-6. Died suddenly July 24. Survived by wife, Olivia.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Service Emblems

CONVAIR

Service emblems due Aug. 1 through Aug. 15.

Thirty-year: Dept. 400-3, L. R. Robbins.

Twenty-five-year: Dept. 001-0, P. H. Rudolph; Dept. 024-0, J. F. Ames, W. M. Bender; Dept. 031-0, R. E. Bowman, Tomas Castro, W. C. Griffin, R. W. Menzie; Dept. 149-2, L. W. Putney; Dept. 251-1, W. W. Goodman; Dept. 509-1, R. A. Richardson; Dept. 552-3, B. L. Van Tuyl; Dept. 578-2. E. F. Strong; Dept. 587-2, R. S. Shorey; Dept. 733-0, G. C. Landy; Dept. 756-0, T. R. King; Dept. 761-0, W. R. Carey, G. C. Zimmerman; Dept. 780-2, S. G. Hughes; Dept. 833-1, M. L. Goodall; Dept. 835-2, L. F. Lewis; Dept. 963-3, R. N. Lewton.

Twenty-year: Dept. 733-0, Myrtle S. Nevills; Dept. 780-1, Grace G. Ross; Dept. 821-1, J. G. Folchi; Dept. 972-0, S. P. Brower.

Fifteen-year: Dept. 001-0, R. N. Bishop, Benjiman McMullen; Dept. 015-0, K. C. Brown; Dept. 113-0, J. I. Laird; Dept. 123-0, Catherine A. Niehoff; Dept. 130, W. E. Bowman, J. B. Haringhaus, S. H. Imdieke, Michael Kotun, Val Pry; Dept. 131-4, Martha B. Dowell; Dept. 132-2, Carlo Di Maggio; Dept. 142, C. L. Cheves, K. A. Hurst; Dept. 143, H. H. Dow, L. H. Fry, R. H. Hennum, O. F. Kennann, R. J. McLeod, D. D. Parkhurst; Dept. 195-7, C. M. Gudmundson; Dept. 225-0, R. P. Herrmann; Dept. 251, A. L. Burnett, J. A. Master.

Dept. 451-0, Aaron Roberts; Dept. 511-1, J. E. Burgeson; Dept. 526-6, A. B. Conard; Dept. 544-5, Gerald Marshall; Dept. 575-2, R. C. Schaefer; Dept. 576-1, E. J. Danley; Dept. 591-0, W. B. Newcomb; Dept. 641-0, W. B. Swindall Jr.; Dept. 644-1, D. A. Hunter; Dept. 733-0, Myrtle C. Green; Dept. 818-0, R. C. Thomas; Dept. 819-0, L. C. Michenfelder; Dept. 821, Ida S. Mitchell, L. F. Vought; Dept. 822-0, Teresa C. De Bolt; Dept. 824-0, W. R. Foster; Margaret S. Monkman, J. E. Rath, Lila G. Taylor; Dept. 830, Mildred M. Lowry; Dept. 832-1, J. C. Van Buskirk Jr.; Dept. 835-4, F. E. Carranza; Dept. 957-0, L. H. Cordova, R. B. Katan, C. J. Lambie; Dept. 974-4, O. P. Ray; Dept. 978, J. E. Slean, G. R. Thomas.

Ten-year: Dept. 058-0, T. S. Vaughan; Dept. 130-1, W. C. Phillips; Dept. 141-2, Q. S. Reid; Dept. 142-4, G. V. Owsley; Dept. 227-0, L. E. Hake; Dept. 250-4, Damasco Parco; Dept. 511-1, R. L. Hendrix; Dept. 513-1, C. F. Britton; Dept. 522-6, V. H. Gideon; Dept. 541-0, W. E. Moore; Dept. 553-3, R. A. Haubert; Dept. 574-2, D. L. Binney; Dept. 576, R. A. Clark, J. R. Profit Jr.

Dept. 580-1, R. L. Jaegly; Dept. 581-1, R. F. Mawhinney Jr.; Dept. 584-3, D. T. Bowden, G. B. Yates; Dept. 595-0, J. H. Fountain; Dept. 687-1, G. D. Rott; Dept. 691-0, G. R. Blayzor; Dept. 693-3, M. H. Martin; Dept. 695-0, J. L. Minos; Dept. 744-0, Thomas Tomaselle; Dept. 756-0, R. E. Akers; Dept. 760-1, J. B. Griffin; Dept. 763-0, W. J. Lewis; Dept. 780-3, L. W. Cross; Dept. 816-2, William Borneman; Dept. 821-1, Virginia P. Papstein; Dept. 832-3, Grace D. Alderman; Dept. 833-2, G. L. McDonald; Dept. 951-4, C. A. Richardson, Jr.; Dept. 954-4, V. B. Dawson; Dept. 963-6, R. F. Case; Dept. 978-3, R. N. Brav, W. B. Reid.

STROMBERG-CARLSON

Fifteen-year: Dept. 8575, J. W. Young.

Awards

CONVAIR

Employe Suggestion Awards approved for the period ending July 14.

Dept. 001, W. J. Gramse (two awards); Dept. 002, R. A. Davis; Dept. 015, J. B. Denton; Dept. 25, F. J. Olin; Dept. 123, J. A. Benaridez; Dept. 758, F. D. Holbrook; Dept. 758, V. Tocco; Dept. 832-3, R. A. Stahl; Dept. 953-2, L. J. Gaber and D. M. Janssen, joint award.

Employe Suggestion Awards approved for the period ending July 21.

Dept. 019, D. R. Bryson; Dept. 031, R. E. Bruce; Dept. 041, J. Caldwell, G. A. Hasti; Dept. 191, P. R. Grokoest; Dept. 715, E. S. Budzinski; Dept. 758, V. A. Bentley, G. F. Eggert Jr. (two awards), N. Montallegro, L. Tocco; Dept. 759, E. A. Jipp; Dept, 814-0, F. L. Wagner.

Retirements

CONVAIR

DODGE — Daniel D., Dept. 93-0. Seniority date Feb. 21, 1956, retired June 30.

KNELANGE — Raymond W., Dept. 25-1. Seniority date March 8, 1948, retired June 18.

MOSELEY — Arthur R., Dept. 6. Seniority date March 17, 1942, retired May 28.

PERKINS — Glen C., Dept. 811-1. Seniority date Sept. 9, 1960, retired March 1.

SAIKO — George J., Dept. 250-5. Seniority date Dec. 20, 1956, retired June 30.

THURLBY — Albert J., Dept. 403-3. Seniority date May 9, 1960, retired June 7.

WICKNER — David, Dept. 143-5. Seniority date Sept. 17, 1956, retired June 28.

Personals

CONVAIR

Many thanks to Convair friends at Lindbergh Field and Kearny Mesa plants for the flowers and expressions of sympathy at the loss of our mother.

The Mavrinac Family

Births

CONVAIR

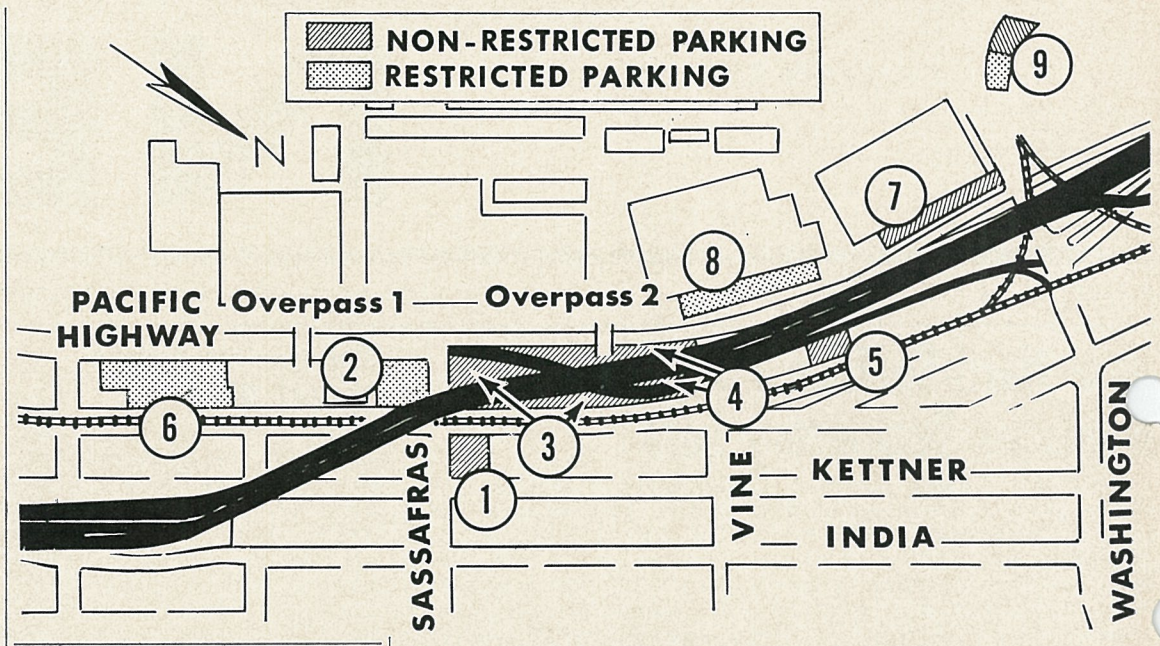
ADAMSON — Daughter, Jacqueline Anne, 6 lbs., born May 24 to Mr. and Mrs. Patrick Adamson, Dept. 637-2.

STEELE — Son, Roger Darron, 7 lbs., born July 5 to Mr. and Mrs. Max L. Steele. Dept. 966-4.

TARANTINO — Daughter, Carolyn, 8½ lbs., born July 22 to Mr. and Mrs. Vincent J. Tarantino, Dept. 870-0.

AIR STATION SKIPPER VISITS CONVAIR PLANT

Capt. William W. Jones, USN, commanding officer of Miramar Naval Air Station, and Capt. Allen W. Lamarre, USN, station aircraft maintenance officer, visited Convair's Kearny Mesa plant recently for a briefing on current and future programs. They were addressed by C. S. Ames, Dr. Andrew Kalitinsky and J. H. Famme and lunched with J. R. Dempsey, Convair president.



Craftsmanship Winners Named At All Plants

(Continued from Page 1)

exclaimed.

In addition, he praised the department on the appearance of work areas.

Strand told his people, "I am accepting this award for all of you. You are the ones who made it possible for us to win."

Runner-up at the Kearny Mesa plant was Dept. 761 with a Quality Index 110.6. Dept. 780-2 was in third place with an index of 107.2.

Dept. 019 was runner-up at the Lindbergh Field plant with a Quality Index of 106.9 and Dept. 016 was third with an index of 104.5.

At VAFB, PALC II was runner-up with a Quality Index of 115 and PALC I was in third place with an index of 113.5. Across the nation at Cape Kennedy, Complex 13 was runner-up with a Quality Index of 107.5 and Complex 36-A was third with an index of 106.6.

Government-Agency Auditing Combined

The Defense Contract Audit Agency, established July 1, 1965, by the Secretary of Defense, is now responsible for auditing all government-agency contracts at Convair. The independent agency was formed to consolidate the contract auditing previously done by the three military audit services.

George L. Wilson, resident auditor, and 23 government employes, will audit Convair's contracts with such agencies as the Air Force, Navy, Army, Department of Defense, and Department of Health, Education and Welfare.

Oceanographic Buoy Featured in Display

Convair's oceanographic buoy, developed by the division for the Office of Naval Research for acquisition of weather and sea data, will be one of 14 model displays of San Diego oceanographic firms exhibited today (Aug. 4) at the annual meeting of the San Diego Chamber of Commerce.

The oceanographic displays will point out the underseas projects manufactured in San Diego and some of the underwater craft that will be operating off San Diego in the near future.

Ball Game Coming Up For Management Club

Convair Management Club families will go to the ball game Aug. 20 to see the Padres vs Oklahoma City 89ers at Westgate Park. A catered dinner will be served at 6 p.m. Game time is 8. Only 1,000 tickets will be sold. Cost for dinner, parking, box seats, popcorn, etc., (for the children) will be $2.50 for adults; $1.50, children under 13. Ticket deadline is Aug. 17.

New Hard-Surface Parking Replaces Temporary Lots

(Continued from Page 1)

along Pacific Hwy. north of Sassafras; No. 5, on the east side of the Washington St. exit from Pacific Hwy.; No. 7, along the east side of Bldg. 3 with entrance from the Washington St. extension.

Reserved lots, requiring special permits, are: No. 2, north of Bldg. 19; No. 6, south of Bldg. 19 on Pacific Hwy.; No. 8, east of Bldg. 2 along Pacific Hwy. southbound.

In addition, the lot adjacent to Gate 5 (lot No. 9) is open to general parking, with only a portion of it reserved.

Also, there is considerable street parking available within a few blocks east of the plant.

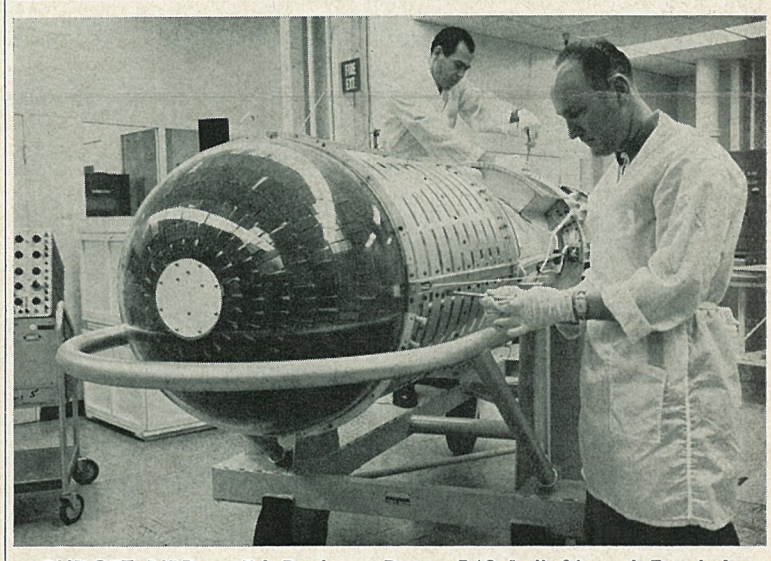
"We are most grateful for everyone's fine attitude during the past months, in spite of the distances many had to walk to temporary lots," Veal continued. "Now we're glad to say that the completion of the new lots adjacent to the plant will provide adequate parking for most of our employes who drive to work.

"All lots have been lined for maximum occupancy and we are sure that everyone will be careful to park within the lined spaces so that as many cars as possible will be accommodated."

★ ★ ★

ROUTES TO PARKING LOTS OUTLINED

Convair employes using the new parking lot (No. 3) directly in front of Bldg. 16 at Lindbergh Field plant are directed to use Overpass 2 and Gate 2 for entrance to the plant. Drivers parking in lot No. 4, across the Washington St. exit, must cross Pacific Highway at the Sassafras St. signal or by Overpass No. 1.



BUDGET BIRD — Ed Dodero, Dept. 543-1 (left) and Frank Lay, Convair Dept. 780-3, both satellite technicians, put final assembly touches on low-cost ARS satellite for Air Force. Satellite was displayed at American Institute of Aeronautics and Astronautics in San Francisco July 26-29.

Space 'Hitch-Hiker' OV-1 Exhibited For Members at AIAA Gathering

Government, military, and industry leaders got a first look at the GD/Convair designed and produced Air Force Aerospace Research Satellite when it was displayed during the second annual meeting of the American Institute of Aeronautics and Astronautics in San Francisco July 26-29.

The Aerospace Research Satellite, also called OV-1, "hitch-hikes" into space on an Atlas space launch vehicle which is performing another space mission, thus reducing costs with the multiple payload. A launch with an Atlas is scheduled for September.

The OV-1 carries its own propulsion system which is turned on after the satellite is ejected from its pod on the side of the Atlas.

A wide variety of experiments can be conducted in space using the OV-1, including radiation data, micrometeoroid detection, and re-entry heating.

The satellite is to have up to 180-day life in orbit, during which time it will transmit data back from space to ground stations at Cape Kennedy, Antigua, Ascension Island, and Hawaii. It will turn itself off 180 days after its launch from VAFB.

MANUAL CONTAINS PERSONNEL RULES

A new personnel administration manual has been issued to all Convair supervisors.

The looseleaf, three-ring manual contains instructions on about 100 subjects under headings such as: educational services, employe services, employment, labor relations, medical, professional placement and personnel, safety, security, wage and salary, and insurance.

M. V. Wisdom, Convair's director of industrial relations, told supervisors that the manual is designed to provide information which will enable them to answer most of the questions employes will ask, and to inform supervisors on procedures for accomplishing the many phases of personnel administration.

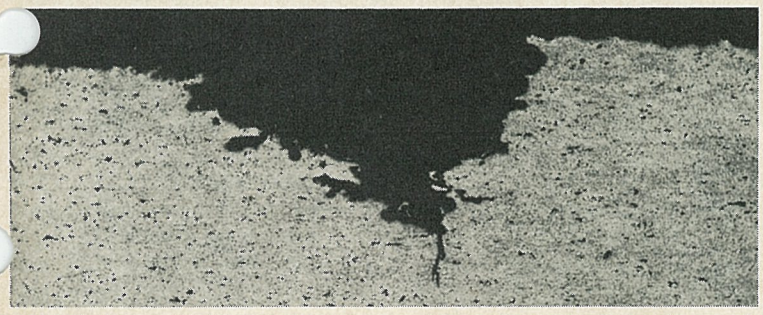
Bugs and Corrosion

GD/FW Scientists Tackle Problem On Invisible Bacteria in Jet Fuel

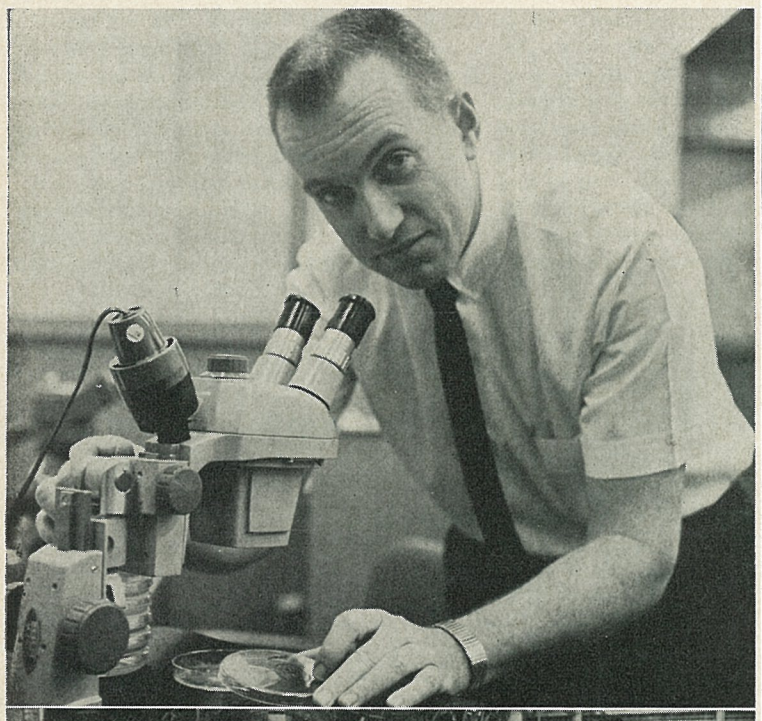
Biologists — of all people — are spearheading the war against one of jet aircraft's deadliest enemies: microorganisms.

Microorganisms are invisible bacteria, yeast and molds that abound virtually everywhere—in air, soil, water and probably outer space.

Unless good housekeeping is practiced, they can infiltrate jet fuel, multiply, and eventually attack inner fuel-tank coatings and airplane parts. Result: corrosion and eventual metal fatigue.



RESULTS — Pitting and inter-granular corrosion of aluminum alloy by microorganisms is shown in cross-section photo, magnified 100 times.





MICROBE HUNTERS — In top photo is Dr. H. G. Hedrick, microbiologist at GD/Fort Worth, who heads study of microorganisms in jet fuel. Below, Sharon Culver, chemical analyst, poses by tanks where airplane metal parts are exposed.

Why is jet fuel more susceptible to invasion by these organisms than regular aviation gas?

"Because jet fuel is not as refined and contains fewer additives," says Dr. H. G. Hedrick, microbiologist in the GD/Fort Worth bioscience group of the applied science and engineering section.

"Fuel contamination didn't really become a problem until jets came on the scene.

"Too, modern military and commercial jets consume infinitely larger quantities of fuel. This requires more storing and handling, all of which increases the chances of contamination."

Once the tiny invader gets a toehold in the jet fuel, it can reproduce about every 20 minutes. Eventually, the single cell becomes a mass of slime which can clog a fuel line or filter, or eat away at a fuel tank panel.

Dr. Hedrick and associates have experimented with a number of methods for destroying the invaders.

One study involves a sophisticated filter system capable of catching the organisms as fuel flows by. Though successful, such a system slows the flow rate of fuel considerably.

"We also subjected microorganisms in fuel to a high radio frequency field," Dr. Hedrick said. "Results were inconclusive."

A number of fuel additives have been tried, but few have proven totally effective or compatible with the jet fuel system.

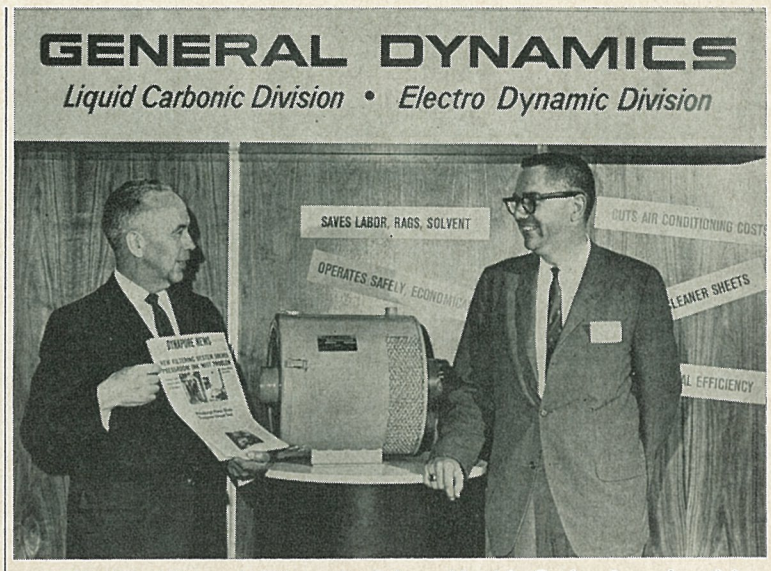
Other methods evaluated include: ultraviolet and electromagnetic radiation, electricity, high pressure, grinding, ultrasonics, to name the more prominent ones.

"Meanwhile, the best preventive remains clean fuel and 'good housekeeping,'" Dr. Hedrick says. "We can't stress this point too much. It is a tremendous job to educate fuel handlers on this point."

In order to test the effects of microbiological corrosion, GD/FW scientists had to create conditions typical of microorganism-contaminated fuel tanks. They were able to do this by exposing airplane metals to bacteria and fungi — under controlled conditions — in the laboratory.

"Microorganisms were able to bring about corrosion of aluminum alloys under these conditions," Dr. Hedrick said.

From all indications, the role of the microbiologist will become even greater as man goes farther into space. He is an important member of GD/Fort Worth's aerospace team.



SELLING JOB — William E. Price, Liquid Carbonic advertising manager, left, and Charles Potter, Electro Dynamic program manager, are shown at joint exhibit during American Newspaper Publishers Association convention in Chicago. They explained advantages of Dynapure air filter device. Among many applications, Dynapure is valuable in press rooms to eliminate ink mist from the air. Device is being marketed cooperatively by divisions.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

ROBERT J. CAVALLERI (1964), **EDWARD J. SCHLAMP** (1964) from Convair to Electric Boat; **RAYMOND R. PUTERBAUGH** (1940) from Convair to field operations, Fort Worth; **JOSEPH N. SHAW** (1956), **CHARLES E. CRAWFORD** (1960), **ACEL L. EAKLEY** (1957) from Convair to Electric Boat; **ALFRED L. MEADOWS II** (1948) from Fort Worth to Electronics (Rochester); **DEAN A. HENDERSON** (1959), **EDWARD J. KAMINSKI** (1963) from Convair to Electric Boat.

FRANK E. LESKO JR. (1962) from Convair (Vandenberg AFB) to Electric Boat; **LEWIS I. ESTEP** (1954); **JACK R. COUCHOIS** (1956); **MICHAEL T. COSTURA JR.** (1964) from Convair to Electric Boat; **SAUL D. LEPEN** (1963) from Convair to Electronics (San Diego); **WILLIAM T. DAVIS JR.** (1960), **HARLAND S. WOODBURY JR.** (1959), **STEVE P. PELLISH** (1959) from Convair to Electric Boat.

GEORGE C. SPENCER (1939) from Convair to engineering procedures, Pomona; **LOWELL V. SILVERNAIL** (1961), **CHARLES T. FELZ** (1956) from Convair to Electric Boat; **DONALD K. WHYNOTT** (1960) from Pomona to technical employment representative, Electric Boat; **EMIL J. DUBATOWSKI** (1956), **CALVIN A. JUDD** (1941) from Convair to Electric Boat; **CHARLES W. VAN AMBURG** (1956) from Fort Worth to Electric Boat (Quincy).

DUANE W. RENO (1964), **ROBERT H. HERRING** (1960), **HAROLD L. WILSON** (1955), **FORREST REY** (1960) from Convair to Electric Boat; **ROBERT C. FROESCHLE** (1958) from Convair to Electronics (San Diego); **WILLIAM L. WATEROUS** (1957), **ALLEN S. CRAFT** (1961), **AUGUSTUS B. DADDI** (1952) from Convair to Electric Boat (Quincy); **JAMES E. MOORE** (1963) from Convair to Stromberg-Carlson (San Diego); **CLARK THOMPSON** (1956), **FRANK W. LADD** (1963), **LUIS LUCERO** (1960), **WILLIAM B. DULL** (1962) from Convair to Electric Boat.

Airborne Computer Contract Awarded S-C Data Products

Stromberg - Carlson Corp. has received a contract totaling over a half million dollars for special airborne computer display equipment to be used in the development of advanced airborne antisubmarine warfare techniques.

Carl V. Shannon, manager of S-C's Data Products division at San Diego, where the equipment will be designed and built, said that the contract was awarded by the U.S. Naval Air Development Center, Johnsville, Pa., which is under the direction of the Bureau of Naval Weapons. The equipment is part of a second generation airborne system for the Navy's A-NEW program.

Stromberg-Carlson will provide a Multi-Purpose Display built around an improved CHARACTRON shaped beam tube. This display incorporates a combination of high-performance digital and analog display capability into a single compact unit.

S-C has participated in the design and development of two previous A-NEW experimental systems.

Study Contract Aims at Determining Needs Of Astronauts on Trips of Over a Year

GD/Convair scientists are studying the requirements to keep astronauts alive in space for missions longer than one year.

These missions will require astronauts to live in a closed environment with a closed life support system that will permit reuse of water, food, and cabin air.

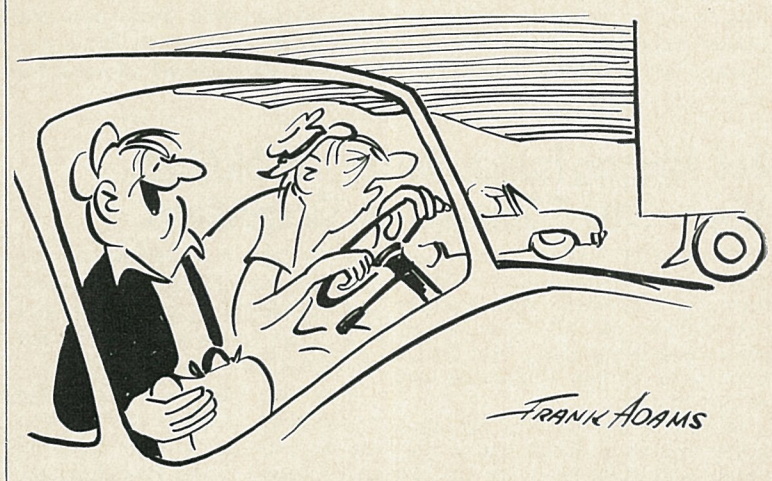
The $70,000 study is being done for the National Aeronautics and Space Administration's Ames Research Center.

The project will survey all of the present techniques available, determine which are best, and how much research and development will be required to turn the selected techniques into reality.

George Drake, project leader, said the first phase of the study will require six months to complete. At the conclusion of the study, recommendations on the cost and time requirements for additional research and development will be made.



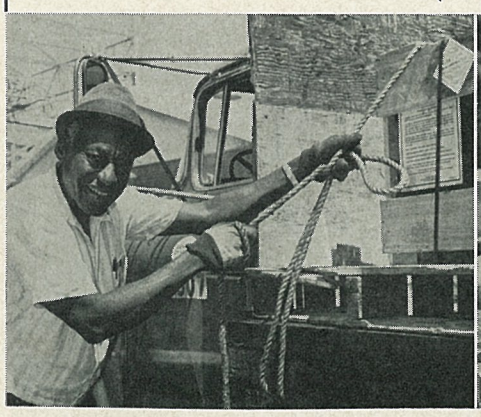
TWO SCORE — F. Ward Trede, second from right, senior tax accountant at Corporate Headquarters, receives 40-year pin and congratulations from John A. Sargent, Corporate vice president-finance. At left is William T. Lake, Corporate comptroller; at right is James P. Ross, Corporate director of taxes. Ward started as bookkeeper in Electric Boat's New York Office, July 2, 1925.



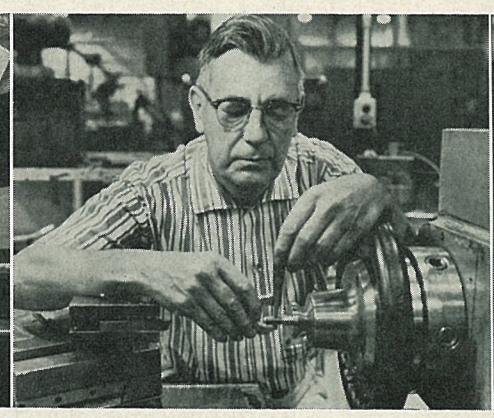
"So, by the time traffic lets up so you can get home, it's time to start back to work again! Stop complaining . . . you wanted a steady job, didn't you?"

Convair Personalities . . .

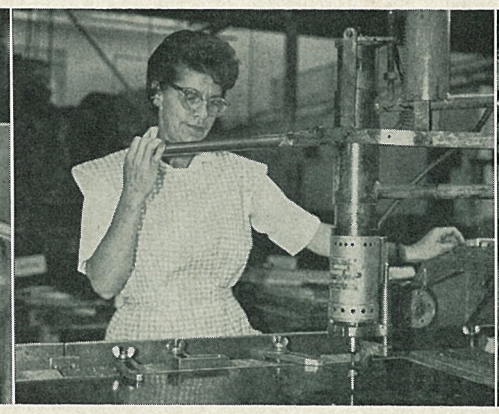
Know these people? Their jobs are vastly different and they work in areas perhaps remote from your own, but they—and you—have one big thing in common. All work for Convair division of General Dynamics.



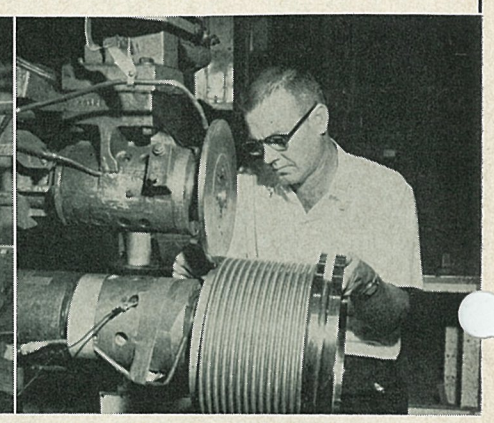
Winfrey McPhatter, better known as "Mac," has driven Convair vehicles several hundred thousand miles in the 22 years he's been in transportation at the Lindbergh Field plant. He piles up 100 to 150 miles a day and more when he goes back and forth to Los Angeles or off-site locations. He drives any single vehicle from "10 wheelers" (10-ton trucks) to quarter-ton pickups, delivering everything from a 20,000-lb. load of dies to bundles of GD/NEWS and hasn't had a real accident in all the years. "I really like to be behind that wheel," he said. Mac spends most of his free evenings during softball season umpiring top city and American Softball Association league games. He and his wife, Ruthie, live in the Highland Square area near National City. Their three daughters are married.



Charles Peterson, Dept. 731, has worked at Convair's Kearny Mesa plant as a lathe operator for the past seven years. Born and raised in New York, he moved to New Jersey when he was 16. He learned his trade in small New Jersey shops, then moved to Connecticut where he worked 10 years as a tool and diemaker. Peterson owns his home in Point Loma where he spends his leisure gardening. He tends five kinds of roses all year round. In summer he adds dahlias and gladiolias and in winter, snapdragons and stocks. Peterson and wife Ella have been married 23 years. Peterson likes travel by auto. Most ambitious was a five-month journey from Connecticut to California. This included stops in Canada, the U.S. and Mexico. He has vacationed twice in Florida and visited the World's Fair in New York.



Ruth Stockton is the only drill press operator in sheet metal at Lindbergh Field plant, operating both high cycle and table machines to drill brackets, skins, and other parts for in-house production programs and spares. "I guess I must have shown an aptitude for this work when they tested me at the Curtiss-Wright training school in St. Louis, Mo., during the last war," she said. She has been doing the same work at Convair ever since she moved to San Diego 18 years ago. She's also operated a band saw, but prefers drill presses. She, and her parents whom she persuaded to move to San Diego from Missouri several years ago, live in East San Diego. Ruth loves water sports, especially water skiing and fresh water fishing, which she does every chance she gets.



H. R. "Ray" Short, leadman in Dept. 759 at the Kearny Mesa plant, says that in his 18 years as a spot welder he has "worked on everything from the L-13 on up." Born in Roseboro, Ark., he came to California in 1940. He graduated from Sweetwater High School in National City and then joined the U.S. Army. During 1946-1947 he was a Special Services NCO in Japan. Short now makes his home in Chula Vista with his wife Helene and their three children. Speaking of his hi-fi and stereo hobby, Short says, "I've always avoided keeping a record of the money I've put into my equipment. I know the total would be too much. But it has given me a lot of pleasure and relaxation and secretly I don't regret it." (He didn't volunteer his wife's opinion.) Ray is interested also in new production techniques.

Tank Used in Life Support Study Shipped to Langley Research

A big dome-shaped steel tank, containing a life support system designed to sustain four astronauts in space for a year, moved out of Convair's Kearny Mesa plant last week.

The tank, 18 feet in diameter, 18 feet high, and weighing 60,000 pounds, was trucked through San Diego to the Navy Pier where it was lifted aboard ship for its journey to Hampton, Va.

At Hampton the test bed will be turned over to the Langley Research Center, operated by the National Aeronautics and Space Administration (NASA), where it will be used for advanced research in life support systems technology.

The tank contains instrumentation that will:

1. Completely recycle the water supply required for four men for a year in space with 90-day resupply of some items.

2. Completely regenerate carbon dioxide exhaled by the crew into pure breathing oxygen so that the original cabin air and original oxygen can be used again and again.

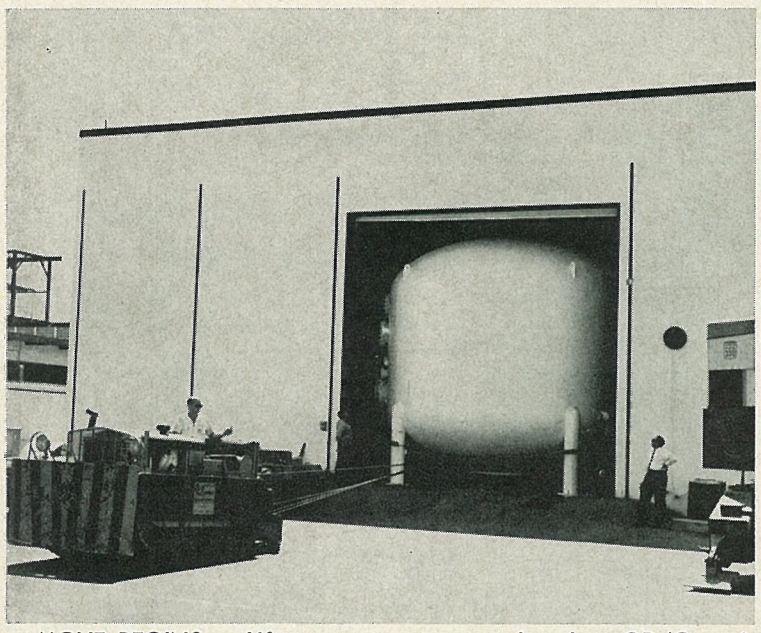
3. Rigidly control cabin temperature.

4. Provide atmospheric contaminant control.

5. Provide personal hygiene facilities.

6. Provide for handling of "space food" for the 90-day period.

Integration of all the systems and subsystems in the life support system came after an intensive research, development, and production program at Convair under NASA contract.



MOVE BEGINS — Life support system produced at GD/Convair begins move out of building at Kearny Mesa plant. Sixty-thousand pound tank is being pulled over strips of greased steel. Tank was trucked to ship at San Diego's Navy Pier and placed aboard for journey to Hampton, Va. via Panama Canal.

Rod Johnson, Francis Harvey, Jim McGinnis Win in Class B Spearfishing Competitions

Three CRA divers took top places and another had a near miss in wide-open spearfishing competition of all San Diego divers belonging to the San Diego Council of Diving Clubs the end of last month.

Divers were allowed to dive anywhere they liked along the coast, although most of the 40 contestants joined the three boatloads going to the Coronado Islands.

Delta Divers' Larry Blackburn, a sure winner in the A category, lost the shaft of his spear gun in a large black sea bass to put him out of the running.

However, CRA winners in the B category (limited to all who had never won a first place in any contest) were Rod Johnson, first, with 33 points; Francis Harvey, second, 25 points; and Jim McGinnis, fifth.

Bus Loads Will Travel To Angels-Twins Game

Sign-ups are being accepted now for the Aug. 22 group bus trip to Los Angeles to see the major league ball game pitting the Angels against the Minnesota Twins.

Ball fans can reserve a bus seat and game ticket by paying the total charge of $5.50 at the CRA Clubhouse, Kearny Mesa, or employe services, Bldg. 16, Lindbergh Field, before Aug. 18.

Chartered buses will leave parking lots at both plants about 9:30 a.m. and return by 6 p.m.

Tickets Go on Sale For 'World Series'

Series tickets for the 14th annual Pony League World Series Aug. 26-29 are on sale at Convair employe services at 50-cent reduction in price.

Reserved seats for the 7-game series sell for $6.50. General admission is $4.50.

Tournament play, which pits top Pony Leagues in the county, will be held in National City's Kimball Park. Winner will have a chance to go on into U.S. divisional play-offs.

Circle Arts Ticket Prices Cut a Third

Bargain-rate tickets to Circle Arts Theatre's next two productions now are available at a third off regular prices at CRA Clubhouse and any employe services outlet.

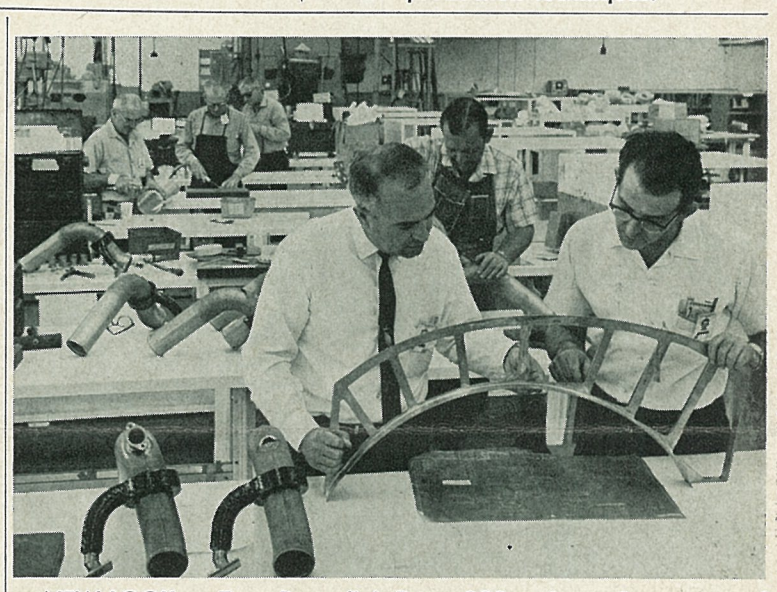
Today is the last day to purchase tickets to the Aug. 6 performance of "Irma La Douce," but there are still two weeks to get tickets to the Aug. 20 showing of "The Most Happy Fella," starring Robert Weede and Art Lund.

Tickets, at CRA prices, are $3.30, $2.85, $2.35, and $1.85.

Women's Golf Club To Play River Valley

Lady golfers of General Dynamics Women's Golf Club will hold their regular monthly tourney Saturday (Aug. 14) at the River Valley course in Mission Valley. Tee-off time is 8:30 a.m.

Jerri Cooper of Convair won the CRA trophy for low score in the GD Women's Golf Club monthly tourney at Tecolote Canyon course July 10. Mary Ransom, Ilene Wilson, Barbara Bugby, Wanda Rose, Margaret Clark, Jean Mishall placed in that order. All received gift certificates.



NEW LOOK — Tony Berardini, Dept. 002 assistant foreman, and Homer Bender, leadman, check titanium firewall frame in renovated welding shop at Convair Lindbergh Field plant with welders working in gleaming white surroundings in background.

Welding Shop Area at Lindbergh Plant Takes on New 'Clean Room' Atmosphere

White smocks are the only things missing in the "clean room" atmosphere of the spruced up welding shop at Convair's Lindbergh Field plant.

Complete renovation of the Dept. 002 area on the west side of Bldg. 1 has given a laboratory look to a factory section. Continuous fluorescent lighting now runs the entire length of the department, about 400 feet. Ceilings have been repainted white and all benches, tables, shelves also are gleaming white.

Machinery has been reconditioned and repainted green. All equipment has been repositioned in a new floor layout to incorporate welding units, grinders, presses, and cutting drills from the former Bldg. 5 welding area.

In further streamlining of work flow, stock benches to hold welders' job assignments have been placed next to each of the eight work stations.

Tony Berardini, assistant foreman, says that the shop now is much easier to keep clean and the workers take a lot of pride in keeping it spic and span.

Jim Halfacre Wins CRA Master Division

Jim Halfacre won master division of CRA Pistol Club's Police Course match July 25. He shot a 293. Roscoe Anderson was runner-up with 287.

Dick Sutton was first in the expert division with a score of 279, three points ahead of Bill Worthington's 276. In sharpshooter division A. E. Kampmann led with 257. Byron Clapper was next with 211.

In .22-cal. Short National competition Joe Williamson shot 287 for first place. Halfacre was second with 281; Bill Geopfarth, third, 279; Anderson, fourth, 275.

Hidden Transmitter Quarry For Hams

CRA hams will be searching the byways and highways for a hidden transmitter tonight (Aug. 4) when they start out from CRA Clubhouse with their mobile direction finders.

All Radio Club members are asked to gather at the Clubhouse at 7 p.m. to hear the signal before they begin the transmitter hunt. The transmitter will be set up somewhere within a 10-mile radius of the Kearny Mesa Clubhouse.

First to locate it will be operator of the club station W6UUS at the next meeting.

Spectators Profit From Divers' Effort

Spectators and tourists were the lucky winners at Delta Divers' last two sea hunts off La Jolla Cove where the catches of shells and other sea life specimens were passed out to bystanders.

High-point divers in the July 18 competition were Larry Blackburn and Rod Johnson who tied with 30 points each out of a possible 35. A close third was Del Daniels with 29. Howard Gutzmer was fourth with 26.

An Intricate Art

400-Year-Old Wood, and Varnish, Hold Secret of Violin Making

Take $80 worth of pine, maple, willow, and ebony wood, three kinds of varnish, $30 worth of tools.

Mix with 250 manhours of painstaking labor, blend in 20 years of skill and experience, spice with four years of study with the world's greatest teacher.

And there is at least the possibility of producing a Grand Champion copy of a Guarnerius violin.

William Fulton, assistant project engineer in Dept. 633-0 at Convair's Kearny Mesa plant, did it.

However, Fulton warns that there are other requirements in the exacting hobby of violin making. For instance, it is best if the pine for the front of the violin is approximately 400 years old, and that the maple for the back of the violin should have been cut "before the turn of this century." Of course, all the woods must be air dried. Too, because the three ingredients in the tone of a violin are, in order of importance, the varnish, the wood, and the workmanship, it helps to have been given a centuries-old varnish formula known only to a select few in the world.

Fulton has the wood, and he has the formula.

Fulton's skill came to its peak with four years of learning with the great violin maker, Willibald Raab, of Munich, Germany. It was in Germany, where Fulton was stationed while an Air Force fighter pilot, that Fulton also got the wood (from a bombed out cathedral) and the varnish formula (from Raab).

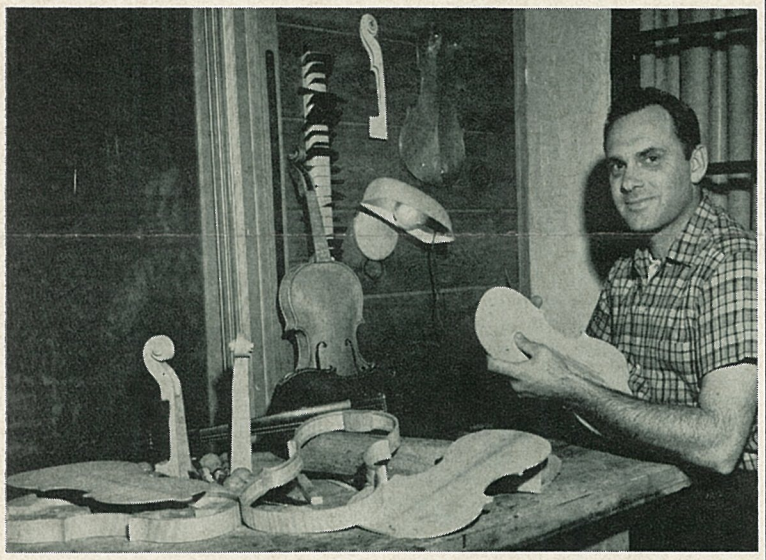
Fulton says that most people are surprised to learn that it is the varnish that is greatly responsible for the instrument's tone. Violins usually have a ground varnish, a color varnish, and a finish varnish. These varnishes should dry, but they should never become hard or brittle. A violin with brittle varnish is stiff and sounds as though it were made of metal.

Using his engineering language, Fulton describes the well-varnished violin as having a "cold flow" surface. That is, "If you can see your fingerprints on the violin at night, they should be gone in the morning."

Most people who make violins for a hobby are very much alike in craftsmanship ability. "For instance," says Fulton, "many of the people who make violins for a hobby are dentists, and they do very intricate work."

Fulton entered two violins in the latest contest of the Southern California Association of Violin Makers. One of the violins won first prize for tone and was also judged Grand Champion; the other violin won third prize for tone.

While in Germany, Fulton acquired enough properly ancient wood to make 30 violins. He has made eight. The remaining 22 will be Fulton's reward and very possibly, master violins.



TONE'S THE THING — William Fulton, Convair Dept. 633-0, poses in violin workshop of Pt. Loma home. Major portions of unvarnished, unassembled violin in foreground illustrate stages of handcrafting instrument. Finished violin seen here is Grand Champion winner worth approximately $1,200.

McDaniels to Head CRA's Fishing Club

Earl McDaniels heads the CRA Fishing Club for the next year after recent elections.

Vice president is Warren Bowen; secretary, Eleanor Darwell; treasurer, Agnes McDaniels.

Anglers are reminded that they should enter all good catches on CRA fishing contest cards at any employe services outlet to be eligible for monthly awards. All entries must be in by the fifth of the following month to qualify, for example, tomorrow (Aug. 5) is deadline for registering July catches.

Next regular meeting of the club will be a potluck and business session at Pecan Park on Aug. 18.

Teen Club Changing Dates and Places

CRA Teen Club has changed both meeting date and meeting place.

Beginning Aug. 6, the club will meet on the first and third Fridays of each month in the Kearny Mesa armory. The club formerly met on the first and third Saturdays in the CRA Clubhouse.

The Aug. 6 meeting will feature four hours of continuous dance music, 8 to 12 p.m. The "Inspirations" and the "Executives" will play.

Openings Remaining For Mexico Jaunt

Four openings remaining for the Mexican tour this month will go to the first who contact Jim Hardison, tour conductor, before absolute deadline next Tuesday.

Final instruction meeting for tourists will be Aug. 10, 7:30 p.m., in Convair executive dining room, Pacific Hwy.

For trip information or reservations call Hardison, home phone 276-5805.

ROCKHOUNDS PLAN FAMILY PICNIC

CRA Rockhounds will gather this Sunday (Aug. 8) in the CRA Recreation Area picnic grounds for their annual family get-together. Families will bring their own picnic lunches and the club will furnish punch. After the meal there will be games and prizes for everyone. Festivities will start at 1 p.m. and last until dark.

CLUB WILL VIEW SLIDES OF HAWAII

Hi-Fi and Music Club members will see color slides of Hawaii at their Aug. 10 meeting, 7:30 p.m., in CRA Clubhouse. Warren Abbott will show and describe the slides. For information on club activities call Ed Wiley, ext. 2910, Kearny Mesa.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for next issue of GD/NEWS is before noon, Aug. 11.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Sign for winter leagues by calling CRA Headquarters, ext. 1111.

BRIDGE—Weekly tournaments Fridays, 7:30 p.m., CRA Clubhouse. Master Point Night Aug. 6.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

DELTA DIVERS — Meeting Aug. 11, 7:30 p.m., CRA Clubhouse. Spearfishing contest Aug. 15, 9 a.m. to noon, Casa de Manana.

FENCING — Workouts and instruction Fridays, 7:30 - 10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB — Potluck and meeting Aug. 18, Pecan Park. Potluck, 6:30 p.m.; business session, 7:30 p.m.

GOLF — Plant championships Aug. 14-15, 22, 28-29, Cottonwood.

HI-FI/MUSIC — Meeting Aug. 10, 7:30 p.m., CRA Clubhouse.

ICE SKATING — GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JR. RIFLEERS — Club shoot Aug. 7, 8 a.m., CRA Gun Range.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — CRA shoot 9:15 a.m., Aug. 8, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meet tonight (Aug. 4), 7 p.m., at CRA Clubhouse for transmitter hunt.

RIFLE CLUB — Hunter safety class Aug. 6, 7 p.m., Gillespie Field.

ROAD RUNNERS — Outing Aug. 13-15 to Barrett Lake Estates.

ROCKHOUNDS—Family picnic Aug. 8, 1 p.m., CRA Missile Park, Kearny Mesa.

ROLLER SKATING — Free skate night Aug. 16, Skateland, Front & G Sts. Tickets at employe services outlets.

SPORTS CAR CLUB—Meeting Aug. 11, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SWIMMING—Free swim night Aug. 21, 7-9 p.m., Mission Beach Plunge. Tickets at employe services.

TEEN CLUB — Dance Friday (Aug. 6), 8 p.m. to midnight, Kearny Mesa Armory.

TENNIS — Registration open for CRA-Management Club summer tennis tournament, Aug. 21-22, 28-29, Mesa College Courts. Call CRA Clubhouse, ext. 1111.

CRA, Mgt. Club Back Tourney

A summer tennis tournament for all Convair employes and members of their families will be co-sponsored by CRA and the Convair Management Club the two last weekends of this month, Aug. 21-22, 28-29.

Tourney play will be held on the Mesa College courts which have been completely enclosed to eliminate wind.

Events will be open to advanced, intermediate, or novice players in singles, doubles, mixed doubles, man and wife teams. Trophies will go to the winner and runner-up in each event. A 50-cent supplementary trophy fee will be collected for each event entered.

Entry forms, now at CRA Clubhouse and employe services, must be filled and sent by Aug. 15 to either Ray Hardy, zone 845-30, or Bob Herold, zone 141-30. For further information call Hardy, ext. 2549; Herold, ext. 3392; or CRA Clubhouse, ext. 1111, all Kearny Mesa.

Sports & Recreation

Sixty-Five Shooters Compete In CRA Event at Gillespie

Sixty-five shooters turned out July 25 to try their luck in one of the largest and most competitive ATA registered trapshoots sponsored by CRA Gun Club at the Gillespie Field Range.

Top scorers in each of the five classes, who won saber saws for their shooting prowess, were: Class A, Bill Shrode of Fallbrook, 99; Class B, Jack Smalley, San Diego, 96; Class C, George Ellis, National City, 91; Class D, Warren Grimsby, Descanso, 88; Class E, Ed Thompson, San Diego, 85.

Edna Gatterman won a Timex wristwatch for high lady honors with her 89.

High junior was Wayne Wright of Holtsville who shot 84. His prize was a knife.

Tony Scuderi of El Cajon was first in handicap with a 95 to win a three-burner Coleman stove. Runner-up was George Harbaugh, also of El Cajon, 94. His prize was a 12-lb. can of Red Dot powder. Third was A. T. Higginbotham of National City, 93, winning a saber saw.

John McCully of Coronado and Jack Swank tied at 92s for fourth. McCully won a 3-lb. can of Red Dot powder and Swank, 100 primed hulls.

Smalley was doubles winner in Class A with an 88 and Don Estes of Lakeside topped Class B with 83. Both received a 3-lb. can of Red Dot powder.

Next ATA registered trapshoot will be a Friday night shoot later this month.

Frank Lubo, Jack Nichols Grab Low Gross in Mgt. Club Golf

Frank Lubo and Jack Nichols swept the field in the June golf tournament staged by Convair Management Club to take low gross honors on separate days of the two-day event.

Besides low gross prizes, cash awards went to top three net scorers in six handicap flights and a Calloway system flight for golfers not having an established handicap. Altogether, 29 players were in the money in the June 26 - 27 tourney held at Bonita Valley Country Club, said Nichols, club golf chairman.

Winners were: 0-11 flight — John Parry, Kay Stites, Vance Walsh, Bill Glithero.

12-13 flight—Phil Raney, M. C. Val Dez, Hal Wilson.

13-16 flight—Charles Maikish, Al Lane, Warren Berschneider, Bill Ball.

17-19 flight—John Jodka, Hank Gallant, Mike Williams.

20-22 flight — George Tahan, Eugene Armstrong, William Bullock.

23-up flight—Del Dimmitt, John Martinez, Forest Erwin, John Overdeer.

Non-handicap flight—Lou Snyder, Tony Zullo, George Schroeder.

Special prizes went to Lubo and Joe Hooker for having the fewest putts on Saturday and Sunday, respectively. John Mellett hit the longest drive on the 16th hole Saturday and Walsh, on Sunday.

Seventy Trailerites Rendezvous Over Weekend at Mountain Resort

Seventy Convair trailerites in 27 vehicles rendezvoused over the weekend of July 9-11 at CRA's mountain resort, Pine Crest, when the Road Runners hosted a joint campout for the Travelers.

Second outing of July for the Road Runners was to Camp Caroline near Escondido last weekend (July 30-Aug. 1) with Carl Scholl acting as wagonmaster.

Road Runners will continue their traveling with a jaunt to Barrett Lake Estates, approximately 35 miles from San Diego on Route 94, the second weekend of this month, Aug. 13-15. All facilities are available at the campsite. Fee is $1.50 a day for each trailer. Carl Monds will be wagonmaster.

For additional information and reservations call Herb McDowell, home phone 469-0570, or Commissioner Ralph East, ext. 1141, Lindbergh Field plant.

The CRA trailer club is open to all Convair, GD/E, and S-C people who own campers or trailers. Outings are held twice a month during the summer months and business meetings the third Thursday of each month.

VERA WHITBEY CAKE RUNNER-UP

Convair Wives' member Vera Whitbey was runner-up for the second year in the baking division of the San Diego County Fair. Her entry this year was an original recipe, "Choc Creme de Menthe Pie."

Few Reservations Remain For Vegas

Reservations may still be made for the coming holiday weekend in Las Vegas, Aug. 27-29, or for another proposed group tour to the Nevada city Sept. 10-12.

Either trip will be $25 for transportation and hotel rooms for two nights. August tourists will stay at the Stardust Hotel while those joining the September trip will be booked into the Mint Hotel in downtown Las Vegas.

Sign-ups for either trip may be made by calling CRA Headquarters, ext. 1111, Kearny Mesa.

Wives Club Invites Greater Participation

Wives of Convair employes and company sub-contractors are urged to join in activities of Convair Wives Club, CRA-sponsored group open to all wives without individual invitation.

Regular monthly luncheons with special speakers are held the third Wednesday of each month at various San Diego restaurants. Reservations must be made in advance with appointed hostesses.

A potluck luncheon is open to all members without reservations on the fourth Wednesday of the month in the CRA Clubhouse, Kearny Mesa. Members furnish covered hot dishes and their own table service.

Afternoon programs following the potlucks include crafts, recipe exchanges, and special events. A baking contest is scheduled for the August meeting under direction of Jeanne Jones, chairman.

For information on the potluck meetings call either Mary Gaus, 273-5198, or Frances Brooks, 469-8793.

Membership chairman, Evelyn Morefield, home phone 273-1577, will answer questions regarding the club and its activities.

Wind Tunnel Equipped For Testing Missile Drops From Attack Planes

Tiny instrumented airborne missiles will be "dropped" from model planes and shot toward unknown targets as if in actual flight by means of a sophisticated computerized system going into operation this month at General Dynamics high speed wind tunnel in San Diego.

The captive trajectory support system, developed and built at Convair, is one of only two or three of its type installed in wind tunnels throughout the country to analyze trajectory of missiles, bombs, and stores in the presence of external flow disturbances, such as those created by the aircraft carrying the missile.

The new system, now under checkout, will be available for test work of any General Dynamics division. It will be especially valuable in analyzing the integration of missiles with attack-type aircraft, with concentration either on the aircraft system or the missile system, explained D. P. Cumming, supervisor of the high speed wind tunnel. It will be used, as required, in either the high speed or low speed wind tunnels. Both are under direction of W. T. MacCarthy.

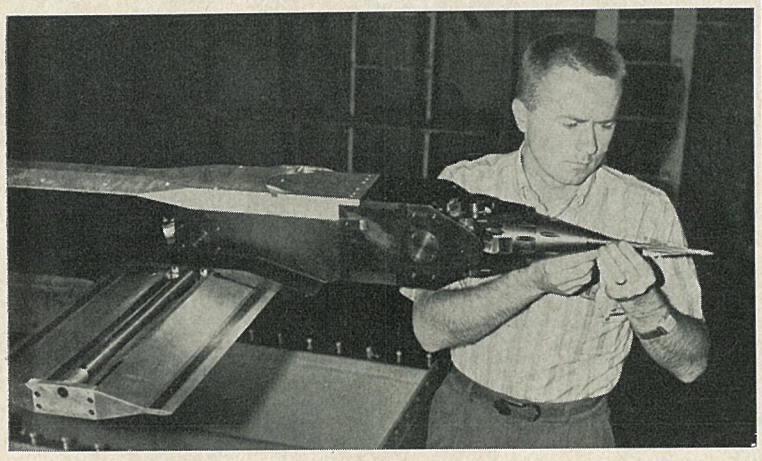
Small, 4- or 5-in.-long missiles attached to the nose of the support will be positioned along the wings or fuselage of a model aircraft, exactly as if they were airborne. A strain gage balance in the missile will send load data at separation to an analog computer which will program the aerodynamic effects on the bomb, or missile, setting the pattern for the drop, firing, and trajectory.

Since the system is a closed loop, the instrumented missile is continually supplying data through the flight path in response to the changing loads developed by the missile. The system is capable of six degrees of freedom: vertical and horizontal, axial, pitch, yaw, and roll.

Analog computer work will be done in cooperation with Convair's analog computer section under R. D. Horwitz. J. R. Picklesimer is in charge of computer programming.

Irvin Olson, senior design engineer of the low speed wind tunnel's model design group, was responsible for design of the system to requirements determined under Cumming's direction.

Convair tool manufacturing at Lindbergh Field plant built the precision-built steel structure for the system with electronic installation accomplished by high speed wind tunnel technicians.



HUSKY SUPPORT — R. F. McGinnis, aerodynamics engineer at GD high speed wind tunnel, positions tiny strain-gaged missile model on nose of captive trajectory support now under checkout at tunnel before going into testing operation as new capability.

First Automatic Tracking Unit For Apollo Ships Under Test

Unit No. 1 of three automatic tracking antenna structures being built by Convair at San Diego for the Apollo Instrumentation Ships (AIS) program, is being assembled and tested at Quincy, Mass. before installation aboard ship by Electric Boat Division. (GD/NEWS, May 12, 1965.)

Unit No. 2, consisting of a pedestal, yoke, reflector, and feed system, is nearing completion at the Kearny Mesa plant.

Orison Wade, program manager for the telemetry structures, said that mostly due to efforts of K. H. Lippitt and W. D. Valentine and their engineering and production teams, Unit No. 2 is on schedule for delivery in August. Unit No. 3 is scheduled for delivery in October.

Convair's Applied Research Antenna is being used for the feed system acceptance testing of the AIS units. The research antenna, originally developed to simultaneously locate, track, and transmit information to and from space vehicles, is given a large share of the credit for Convair having received the contract to build the three, 30-foot AIS structures.

Cost of the telemetry antennas is about $1,125,000; another $600,000 will be paid for various studies associated with the total AIS program.

M. M. Chazotte, chief of Convair's antenna and microwave section, said that in addition to being used to perform the feed system acceptance tests on the AIS antennas, the Applied Research Antenna is also used for studies of advanced antenna systems and antenna feed systems and components.

Detection Satellites Launched by Atlas

Air Force Atlas 225-D with an Agena upper stage, successfully launched two nuclear detection satellites into orbit in the early morning hours of July 20.

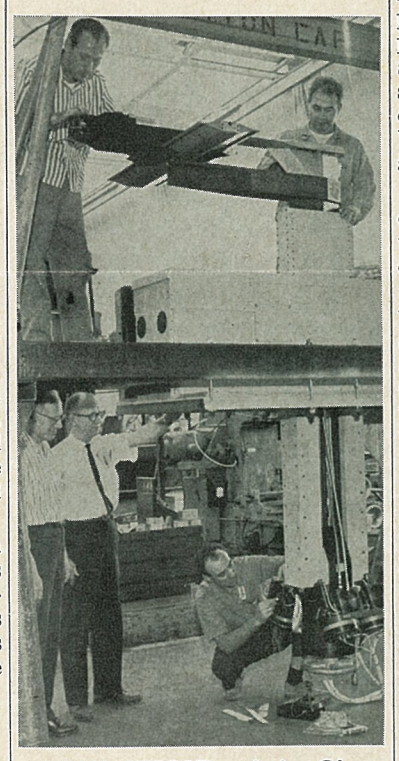
This was the third successful launch of the tandem satellites. Atlas 197-D on Oct. 16, 1963, and Atlas 216-D on July 17, 1964, were the two previous successful launches.

The launch of Atlas 225-D from Cape Kennedy was the last series D Atlas to be used for space purposes. All future space launches will employ the improved Atlas SLV-3 (standard launch vehicle 3).

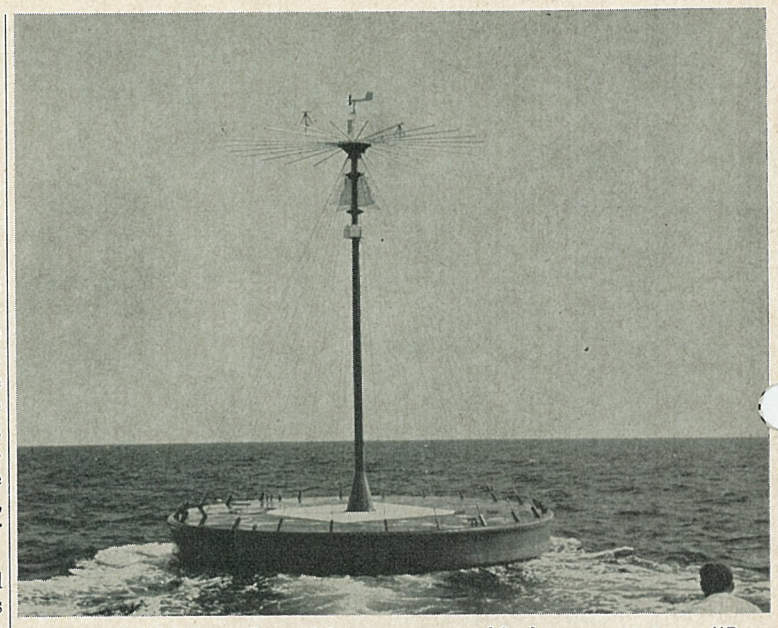
GD/FW Reservist On Saigon Mission

Larry Patton, FW Dept. 61-3, was among 41 Air Force reservists who earned the Armed Forces Expeditionary Medal for recent cargo-carrying mission from Carswell AFB to Viet Nam.

A member of the 512th troop carrying wing, Patton made the flight to Saigon in a C-124 Globemaster.



TEAM EFFORT — Irvin Olson, design engineer, and Joe Williamson, tool mfg. assistant foreman, (lower left) observe completion of wind tunnel system in tool manufacturing. Working on stand are Dick Pranger, test engineer, and Frank Eramo of tool and die. Below, Roger Bucaro, electronic technician, works on instrumentation.



STOUT BUOY — Convair's oceanographic buoy prototype "Bravo" rides strong Gulf Stream current off Florida. F. D. Jennings, head oceanographer of Office of Naval Research Geophysics Branch, is visible in lower righthand corner of photo. Jennings was in bow of boat on inspection trip.

'Bravo' in Fourth Month Bucking Gulf Stream

Convair's prototype oceanographic buoy "Bravo" last week passed its third straight month riding the fast-running current of the Gulf Stream off the Florida coast, probably the first time anything has been moored in the Gulf Stream in water this deep for this long a time.

Although the buoy originally had been scheduled to occupy the station 15 miles east of Hollywood Beach for only one month, its performanace during that initial period matched design predictions so closely that the program's scientific officer, F. D. Jennings of the Office of Naval Research, Washington, D. C., gave the go-ahead for extension of the test.

This is the second in a series of engineering evaluations intended to verify that the buoy can survive virtually any storm the ocean can produce. The test was at first planned to demonstrate only the prototype's response to strong ocean currents, explained Robert Devereux, Convair's oceanography program manager.

Currents of from 3.5 to nearly 5 knots have been measured during the test. Depth of water at the Gulf Stream station is 1,000 feet.

K. N. Jones, senior instrumentation engineer, who returned recently from duty in charge of one of the crews rotating on field assignments, said that the present telemetry system, designed solely as a temporary one for gathering engineering data, has lasted much longer than it theoretically should and "its stability has far exceeded manufacturer's specifications."

"We've had a few problems, but now the system is going strong," he continued. "Most of the trouble seemed to stem from rain and salt spray getting into the open buoy when we were working on the equipment at sea. Evidently the buoy is an excellent environment for electronics equipment when the hatch covers are sealed, possibly better than a good laboratory ashore. That's the only way we can explain the extraordinary performance of the equipment."

Devereux said that significant new scientific data has been obtained. Current velocity data was telemetered for an unprecedented 21 consecutive days around the clock.

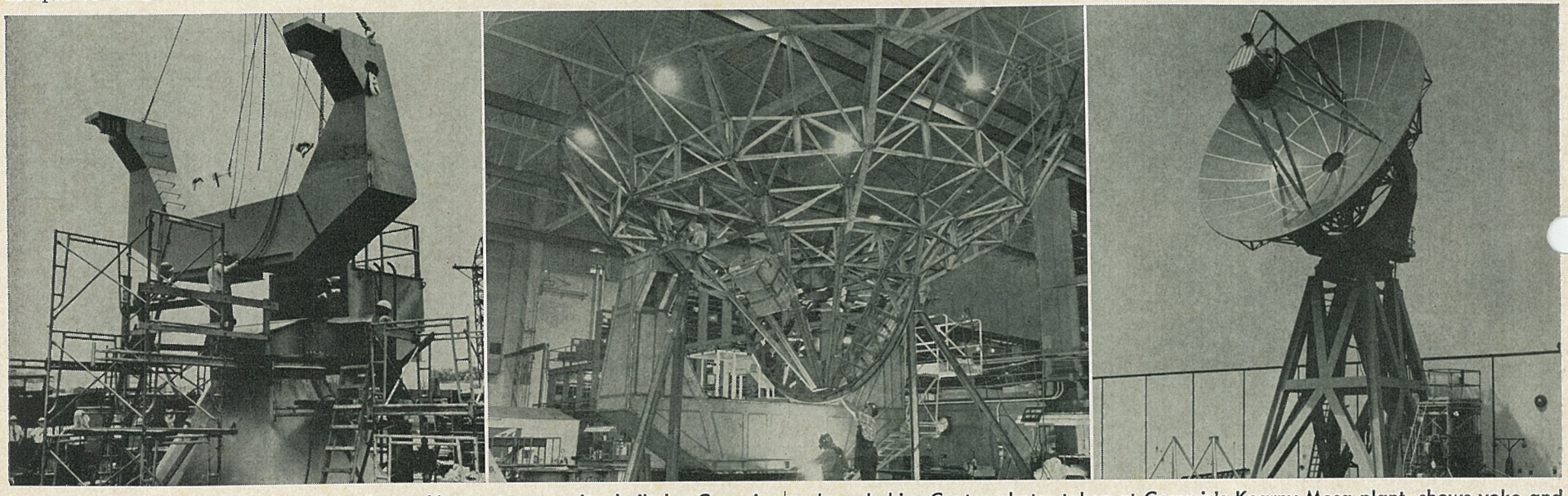
Although Convair has its own current meter on the buoy, these scientific measurements of current velocity were made with a meter installed as a piggy-back experiment by Dr. William Richardson, University of Miami Institute of Marine Sciences. Signals from Dr. Richardson's instrument were fed to the telemetry system in the buoy. Scientific data, together with engineering data, was recorded in the Mobile Engineering Data Center on shore. The records now are being processed by John Thayer at the Convair Lindbergh Field plant in San Diego.

Present plans call for Bravo to remain on station as long as useful data may be telemetered and as long as equipment remains in smooth working condition.

Stan Uyeda, deputy program manager in charge of sea tests, and Dennis Hyland, technician, are now monitoring the buoy. Other Convair teams stationed in Florida since the buoy was moored in April were Jones and Thayer; and Louis Scott, James Lack, and Hyland who had the first tour of duty monitoring the buoy 24 hours a day, seven days a week.

WOMEN TO HEAR BUREAU SPEAKER

Eloise Kelly of the GD/FW Speaker's Bureau will speak to Trinity Chapter of American Business Women's Association at 6:30 p.m. Aug. 10 at Worth Hotel. Her topic is "My Life With Men."



TRACKERS — First of three automatic tracking antenna units, built by Convair for Apollo Instrumentation Ships program, is being assembled at Quincy, Mass. Pedestal and yoke of antenna subsystem of Unit No. 1 are shown at left on pier at Electric Boat's Quincy yard. It will be assembled and tested before installation aboard ship. Center photo, taken at Convair's Kearny Mesa plant, shows yoke and reflector structure for Unit No. 2 under manufacture. Photo at right shows Applied Research Antenna at Kearny Mesa plant. Antenna, originally built to locate and track space vehicles, is being used to perform feed system acceptance tests.

NOTE ARTICLE ON PG. 3 REGD'S TO No. OF PEOPLE WHO TRAVEL BY AIR

CONVAIR EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 17 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, August 18, 1965

NASA Awards Satellite 'Boom' Research Study

GD/Convair has received a study contract to determine the feasibility of a new type of extendable booms to stabilize satellites in space from National Aeronautics and Space Administration's Goddard Space Flight Center.

During the next year Convair will develop, fabricate, and test a low distortion, deployable boom under a gravity gradient element materials study. The booms are designed to keep satellites from tumbling in space and to serve as antennas. Main problem encountered with presently-used booms is the high amount of thermal distortion from the sun's rays.

The ability to spin out long booms in space is essential to the concept of gravity gradient stabilization of satellites and to the extension of radio astronomy to low frequencies, explain Convair process development specialists who will be responsibile for the

(Continued on Page 2)

'Drivers' Test on TV' To Be Shown Again

"The National Drivers' Test," smash hit public service program televised May 30 by CBS (GD/NEWS, May 12, 1965), will be shown again the evening of Aug. 30.

Thus, those who previously took the "test" (and probably didn't score too well) will have a second chance, as well as those who missed the show before. The program is not only educational but deeply absorbing as various types of accident conditions on the highways are pictured as they happened. Viewers can grade themselves by filling out a test form while watching the show. (Form on page 3.)



PREVIEW — D. R. Pardee, chief of division systems, and G. O. Withem, general supervisor of data systems, get close-up look at advanced IBM System/360 with an IBM representative (center) explaining computer equipment at IBM's Los Angeles headquarters.

Updating Under Way In Data Processing

Groundwork is fast being completed for updating Convair's data processing operations with the installation of the most sophisticated equipment now available to not only increase computing capabilities but also save the division half a million dollars a year in equipment rental costs when the entire conversion task is completed.

Existing IBM 7074 and IBM 7010 computers will be replaced with an IBM System/360 Model 50, announced J. H. Johnson, manager of management systems. The IBM 7074 will be replaced next February and the IBM 7010 phased out soon afterward to save over $375,000 a year, it is estimated.

Programs remaining on the small IBM 1460 computers will be converted to an IBM System/360 Model 30 by February, 1968, at an additional cost savings of around $122,000 a year.

Since the first of the year Convair data processing personnel have been receiving intensive training on the new IBM system and application of the Common Business Oriented Language (COBOL) which will be used by the new computing equipment.

Decision by Convair to convert all business computer programs to COBOL will eliminate repeated rewriting of programs to make them compatible with new and advanced computer equipment as it is developed and installed in the future.

"This conversion project is the most complex ever attempted by any large-scale computer user in the nation," said Johnson. "We not only had to merge two company systems with the consolidation of the former Astronautics and Convair operations, but we are converting to a new computer language and changing over to a new type of system—all at the same time."

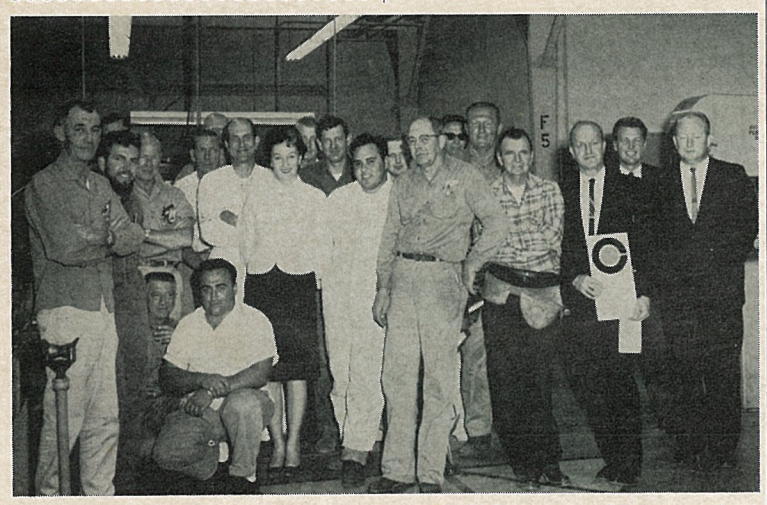
Approximately 85 per cent of the computer programming per-

(Continued on Page 2)

Contracts to Sponsor Mgt. Club 'Ball Night'

Westgate Park will be the setting of Convair Management Club's night out to the ball game this Friday (Aug. 20) when contracts department sponsors a family affair.

Plenty of food will be dished up, starting at 6 p.m. Game time is 8 p.m. with Padres playing the Oklahoma City 89ers.



WINNER AT VAFB — June winners of Craftsmanship award at VAFB pose with sign won for first time by Dept. 576-33. Department is supervised by Foreman W. L. Johnson and Chief of Operations Support E. A. Millar.

Mid-Year Report Reviews Orders; Shipbuilding Up

Substantial new orders were received by General Dynamics in all its major areas of activity during the first six months of 1965, Roger Lewis, president, told share owners this month.

In addition to the letter contract for the first production run of 431 U.S. Air Force/U.S. Navy F-111s, a program expected to exceed $1,500,000,000 when definitized, the Corporation has received U.S. Navy contracts totaling $95.4 million for the construction of surface vessels at its Quincy, Mass., yard, and a $45 million contract to the Electronics division for equipment for the U.S. Army Autodin communication network.



Roger Lewis

The Canadian government has announced that 125 CF-5 tactical fighter planes will be built by Canadair at Montreal under a contract expected to exceed $80 million.

Lewis reported that net income for the six months ending June 30, 1965, was $18,326,000, compared to $18,610,000, for the first six months of 1964. Net sales for the six months totaled $705,670,000, compared to $759,546,000 in sales for the first half of 1964.

Lewis pointed out that earnings do not include provision for profit on the F-111 program.

"This is a major development contract involving considerable advance in basic technology and we do not feel it would be prudent to record specific profits until we are somewhat further along," Lewis added.

Generally bringing share owners up to date, Lewis reported that the 24-day strike at the Groton yard of Electric Boat was settled and full work resumed on a record shipbuilding backlog. Involved are six Polaris submarines, 10 attack submarines, three tracking ships, two ammunition ships, modification and overhaul of four early Polaris submarines, construction of two Navy tankers and a Navy submarine tender.

At the Quincy yard, the first of three Apollo tracking ships has received its new four-deck midbody and is approaching launch and start of sea trials. The second ship has been cut in two and construction of the new midbody begun. The three-ship contract involves the Electronics division, for program management, systems instrumentation and integration; Convair division for large antenna structures; Stromberg-Carlson for shipboard dial telephones and switchboard equipment; Electric Boat for ship construction.

Atlas-Centaur Six Complete Success

Atlas-Centaur Six lifted off the pad at Complex 36-B, Cape Kennedy, at 7:31:04 a.m. (PDT) August 11, for a flight that was completely successful.

Atlas-Centaur is produced for the National Aeronautics and Space Administration by Convair division.

The AC-6 flight, a full-dress rehearsal for the first Surveyor flight toward the moon later this year, put a model of Surveyor into a trajectory toward a point in space some 240,000 statute miles from earth. For flight purposes, this point represented the moon.

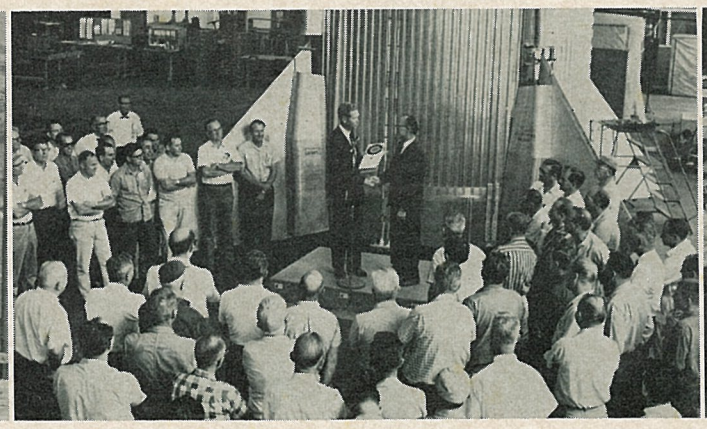
NASA spectators included Dr. Abe Silverstein, director of Lewis Research Center, Cleveland; David S. Gabriel, manager, Centaur project at Lewis; R. D. Ginter, Centaur program manager, NASA headquarters, Washington, D.C.; and Ronald Rovenger, assistant manager, Centaur project office, San Diego.

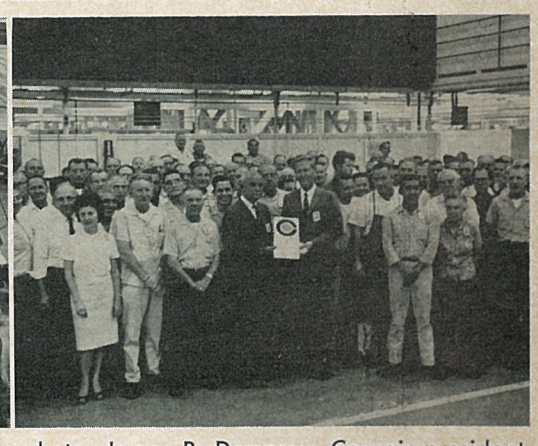
Roger Lewis, president of General Dynamics, joined James R. Dempsey, Convair president; Grant Hansen, Convair vice president and Centaur program director; K. W. Jeremiah, assistant program director for operations; and Dr. Andrew Kalitinsky, assistant program director for engineering, in watching the sixth research and development flight of the world's first hydrogen-powered vehicle.

Major tests of the AC-6 mission were completely successful. These were: spacecraft separation system (spacecraft separation was within one second of programmed time); the propellant utilization system; launch on time (launch was within 4 seconds of pro-

(Continued on Page 2)







CONVAIR CRAFTSMEN — In photo at left, Neil Mullins, foreman of Complex 14 at Cape Kennedy, accepts June Craftsmanship plaque on behalf of SLV-3 launch crew, their second win. B. G. MacNabb, Convair manager of operations at ETR, made presentation that was witnessed by Lt. Col. R. B. Burgess, 6555th Aerospace Test Wing executive officer. Center photo: James R. Dempsey, Convair president, hands award to Clarence Strand, foreman of Dept. 031 group at Lindbergh Field plant, June winners. Photo at right: members of Dept. 759 at Kearny Mesa plant pose with Fred Grossher, general foreman, and Dempsey at presentation ceremony.

Log Book Entries

Service Emblems

CONVAIR

Service embems due between Aug. 16 and Aug. 31.

Thirty-year: Dept. 024-0, C. R. Phillips; Dept. 509-1, B. A. Clemmens.

Twenty-five year: Dept. 024-0, C. L. McNeal; Dept. 031-0, K. H. Anderson, H. C. Cook, S. W. Trotter; Dept. 041-0, I. D. Howarter, J. P. Ruiz; Dept. 250, D. J. Markovich, R. S. Sharman; Dept. 251-1, R. E. Shipman; Dept. 401-4, F. M. Grant Jr.; Dept. 454-0, D. D. Klinger; Dept. 505-0, R. A. Rohler; Dept. 509-1, O. W. Dickinson; Dept. 588-2, C. D. McCarty; Dept. 637-2, William Garcia; Dept. 759-0, L. D. Van Pelt; Dept. 761-0, C. A. Rollberg; Dept. 822-0, V. J. Norris; Dept. 957-0, R. B. Kalanquin; Dept. 972-0, W. H. Rumbaugh; Dept. 974-4, D. W. Williams; Dept. 976-3, G. P. Pack; Dept. 999-0, G. H. Williams.

Twenty-year: Dept. 015-0, C. W. Haffly; Dept. 251-1, William McFarlane; Dept. 400-7, Pearl B. Stanley; Dept. 824-0, A. M. F. Armijo.

Fifteen-year: Dept. 015-0, S. S. Jenson, J. P. Peffley; Dept. 024-0, W. F. Hoover; Dept. 101-7, A. B. Wood Sr.; Dept. 112-0, W. F. Ashmore; Dept. 113-0, J. M. Hardison; Dept. 132-2, C. W. Hendon; Dept. 142-1, W. E. Brown; Dept. 143-1, Mary T. Kelly; Dept. 193-0, J. F. Scanlon; Dept. 195, R. C. Harris, S. E. Hartzler; Dept. 210-0, R. E. Muelchi; Dept. 228-0, Lydia M. Curry; Dept. 250-3, A. T. Jolliff; Dept. 251, John Gathard, Joseph McGuffie, N. C. Pohle; Dept. 403-3, D. M. Brown; Dept. 420-7, C. A. Miller.

Dept. 511, C. W. Bieberdorf, R. B. Riggan; Dept. 524-0, Esther P. Baker; Dept. 526-6, D. T. Griffin; Dept. 545-2, R. G. Umholtz Jr.; Dept. 552-1, W. R. Moore; Dept. 576-1, J. B. Julian, H. C. Raptis; Dept. 580-1, D. L. Morehead; Dept. 587-1, N. S. Kourbelas; Dept. 733-0, Izora P. Lewis, Eleanore W. Ringe; Dept. 744-0, J. A. Hawke; Dept. 756-0, W. H. Grimm, T. A. Martinez, Y. T. Matsuoka; Dept. 759-0, R. H. Churchill, W. C. Scott.

Dept. 780, Basil Galatis, Violet J. Gilbert; Anna P. Greenfield, Walter E. Linberg, Ida V. Marine, Mary T. Saeva, Irene C. Slobig; Dept. 821-2, K. O. DeVeer; Dept. 824-0, Alice D. Mobley; Dept. 832-3, David Dietz, W. B. Jones; Dept. 835-2, J. R. Levell, Jennie N. Williams; Dept. 957-0, R. A. Cooley Jr., J. W. Simpson; Dept. 972-0, J. C. Davis; Dept. 976, E. D. Frink, W. E. Hamilton; Dept. 986-2, W. B. Young.

Ten-year: Dept. 015-0, R. L. Farrar; Dept. 125-0, J. S. Gavett; Dept. 140-1, Patricia E. Ford; Dept. 143, T. E. Anderson, V. A. Wiltse; Dept. 170-9, Mary E. Jerram; Dept. 193-1, Jewel S. Kroepel; Dept. 194-0, G. W. Beals; Dept. 210-1, R. F. Fenton; Dept. 410-0, R. H. Attig; Dept. 420-7, H. L. Prettyman; Dept. 454-0, Samuel Cannizzaro; Dept. 506-5, R. F. Devereux; Dept. 511-1, R. S. Hutchings; Dept. 521-6, Jeannine J. Letzring; Dept. 543-2, C. A. Dunkle.

Dept. 578-1, R. T. Tuttobene; Dept. 592-0, W. M. Carlson; Dept. 642-1, H. S. Greiner; Dept. 731-0, D. J. DeSantes, Dept. 744-0, R. A. Wyckoff; Dept. 780, W. E. Husted, E. J. Stephens; Dept. 835-1, I. F. Nichols; Dept. 951-4, B. A. Yanke; Dept. 953-3, G. R. Oliver Jr.; Dept. 957, F. W. Stewart; Dept. 962-1, E. R. McFadden; Dept. 967-1, L. B. Espinoza; Dept. 972-2, K. D. Boyd Jr.; Dept. 976-3, A. L. Merrow; Dept. 978-3, Benito Villanueva; Dept. 986, J. R. Davidson, A. F. Strubb.

ELECTRONICS

Service emblems due during August.

Twenty-five-year: Dept. 4038, R. L. Hurst.

Twenty-year: Dept. 1251, G. W. Leesch.

Fifteen-year: Dept. 1250, T. H. Scholder (due July 10); Dept. 4073, M. J. Lattuca; Dept. 4074, Peter Goetz Jr.; Dept. 7083, E. R. Peters Jr.

Ten-year: Dept. 4077, Emma J. Webb; Dept. 6867, Duane Schmidtke, R. F. Voell; Dept. 6982, D. R. Williams; Dept. 7083, E. F. Stelmar.

STROMBERG-CARLSON

Service emblems due between Aug. 16 and Aug. 31.

Fifteen-year: Dept. 8605, J. E. MacLean.

Ten-year: Dept. 8201, I. P. Rosen.

Births

CONVAIR

BREWER—Daughter, Rochelle, 6 lbs., 1 oz., born March 21 to Mr. and Mrs. David L. Brewer, Dept. 596-0.

BRUCKER—Daughter, Tam, 2 lbs., 3 oz., born Aug. 4 to Mr. and Mrs. James W. Brucker, Dept. 146-1.

KASZAS—Daughter, Suzanne, 6 lbs., 4 oz., born June 30 to Mr. and Mrs. Leo R. Kaszas, Dept. 585-2.

Invention Disclosures

CONVAIR

BITHELL—Robin, Dept. 583-1, and F. J. DORE JR., Dept. 581-0. Two Position Neutral Rudder System Using Outboard Deflection for Hypersonic Control of a Reusable Rocket.

DORE—F. J. Jr., and P. M. SCHROEDER JR., both Dept. 581. Combined Aerodynamic Flaps and Engine Nacelle for a Reusable Upper State.

DORE—F. J. JR. and P. M. SCHROEDER JR., both Dept. 581. Ballast Expulsion System for Acceleration Limiting on a Reusable Rocket.

SCHROEDER—P. M. JR., Dept. 581-2. Capsule Ejection System - Reusable Rocket Crew.

SIDEN—L. E., Dept. 531-1, and P. M. SCHROEDER JR., Dept. 581-2. Cryogenic Propellant Tank Mounting for Thermal Isolation on a Reusable Upper Stage.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Educational services staff, ext. 1931, Kearny Mesa. Two hours, Tuesday, Sept. 7, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, first shift, Tuesday, Aug. 31, 8 a.m., Bldg. 14 Auditorium; second-shift, Tuesday, Aug. 31, 4:30 p.m., Bldg. 14, Auditorium.

PROFESSIONAL/TECHNICAL

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 4:30-5:30 p.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS — H. C. Neel, 16 hours; Tuesday thru Friday, 1:30 - 3:30 p.m., for 8 weeks; Room 6, Bldg. 14, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field.

DRAFTING (UNDIMENSIONED DRAWING) — S. W. Mopps, E. A. Zivolich, W. J. Wood, 80 hours,; daliy 1 - 4:30 p.m.; Bldg. 5 Loft, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field plant.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECK-OUT — Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours; Monday through Thursday, 3:15 - 5:15 p.m. July 26 through Aug. 26. One week on Fortran. Bldg. 17, Kearny Mesa.

ENGINEERING FORTRAN (BASIC)—Marvin Bauman. 34 hours; 7-8 a.m.; Monday through Thursday; July 26 - Sept. 22. SLV Conference Room 3, Bldg. 33, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

ENGINEERING FORTRAN (BASIC)—Dorothea Jirauch. 32 hours; 3:15 - 5:15 p.m.; Monday through Thursday; July 26 - Aug. 20. Room 7, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

COBOL 7010 — Jay Higdon, 32 hours; 4:15 - 6:15 p.m.; Monday through Thursday; July 21 - Aug. 11. K-10 Conference Room, Bldg. 4, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

360 ASSEMBLY LANGUAGE, ACCELERATED — IBM Staff. 30 hours; 8:30 - 10:30 a.m. and 1:30 - 3:30 p.m. (two separate classes); Monday through Friday; July 26 - Aug. 31. Room 7, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

AFTER HOURS TRAINING IN-PLANT

CITY COLLEGE COURSES—Starting Sept. 13. Registration dates Aug. 23-26, 3:30-5:30 p.m. Kearny Mesa, Bldg. 17, Room 8; Lindbergh Field, Bldg. 14, Room 8. For information, course descriptions, and applications which must be submitted at registration, contact Dick Forrest, ext. 1931, Kearny Mesa, or Wayne Turner, ext. 491, Lindbergh Field.

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I)—Dennis Suchecki, ext. 1931, Kearny Mesa. 65 hours; Tuesdays, 5:30-8 p.m.; Sept. 14-April 5, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For advanced registration, call Martha, ext. 1931, Kearny Mesa.

CRYOGENIC ENGINEERING — Karl Leonhard, ext. 4583, Kearny Mesa. 48 hours; Tuesdays, 5-8 p.m., Sept. 14-Dec. 28. Room 7, Bldg. 17, Kearny Mesa. Prerequisites: minimum of 3 yrs. toward BS degree, or 5 yrs. applied engineering experience.

ENGINEERING FORTRAN IV (Basic)—James Dobrei, IBM. 32 hours; 5-7 p.m.; Tuesdays and Thursdays; July 27-Sept. 21. Room 2, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

Papers Presented

CONVAIR

GREENSITE—A. L., Dept. 512-4. "The Attitude Control Problem for Flexible Satellites," SAF/NASA Aerospace Vehicle Flight Control Conference, Los Angeles, Calif. July 13-15.

* * *

The following papers were presented at the AIAA/2nd Annual Meeting and Technical Display, San Francisco, Calif., July 26-29:

ASHBY—D. E. T. F., T. J. GOODING, A. V. LARSON, Dept. 596-0. "Quasi-Steady State Pulsed Plasma Thrusters."

BROWN—R. C., Dept. 511-2. "A Mapping Technique for Impact Probability Computations."

CAMPBELL—M. D., Dept. 572-1. "Experimental Evaluation of the Thermophysical Properties of Some Plastics and Composites at Cryogenic Temperatures."

CLAUSEN—O. W. and J. T. NEW, Dept. 586-0. "The Use of Directionally Dependent Radiation Properties for Spacecraft Thermal Control."

CONOLLY—A. C., Dept. 583-3. "Foil Hydrodynamic Design of the Convair Subcavitating Hydrofoil (HYSTAD)."

DORE—F. J. Jr., Dept. 581-0. "Some Technical and Economic Aspects of Reusable Launch Systems."

EULBERG—A. C., Dept. 581-2. "A Translation of Military Requirements for Manned Entry into a Vehicle Concept."

FAGER—J. A., Dept. 557-2. "Effects of Hypervelocity Impact on Protected Solar Cells."

HAYWORTH—B. R., A. R. MILLER, C. W. WHITE, Dept. 596-0. "Energy Storage Capacitors for Pulsed Plasma Thrusters."

LEMKE—L. C., Dept. 528-1. "Space Simulation Testing of the OVI Satellite to Verify the Thermodynamic Design."

MARTINDALE—D. L. and J. GILBEAU. "A Large Scale Storage and Transfer System for Distribution of Liquid Helium as a Refrigerant Medium."

TATRO—R. E. end L. C. LEMKE, Dept. 528-1. "Temperature Predictions of the SATAR I Scientific Satellite Analytic Techniques and Space Simulation Verification."

THAYER—J. R., Dept. 528-2. "Effect on Launch Probability Due to 30% Flox in Atlas."

WINLUND—E. S. "Design Tools and Cost Effectiveness Design."

Deaths

CONVAIR

MARTIN—Robert W., Dept. 813-6. Died Aug. 1. Survived by wife, Dorothy; parents; three brothers; two sisters.

TYRRELL—Frank T., Dept. 220-2. Died Aug. 1. Survived by wife, Gloria.

Awards

CONVAIR

Employe Suggestion Awards approved for the reporting period ending July 28.

Dept. 019, D. R. Bryson (two awards); Dept. 031, R. E. Bruce; Dept. 041, J. Caldwell and G. Hasti (two awards); Dept. 119, G. H. Parker; Dept. 125, J. L. Martin, D. Pierce; Dept. 143-2, M. Tuskes; Dept. 143-5, B. L. Mann; Dept. 191-0, P. R. Grokoest; Dept. 250, E. B. Chenault; Dept. 250-2, J. W. Clark; Dept. 454, R. C. Christopher; Dept. 552-2, J. Jachimowicz; Dept. 556-7, H. E. Abraham; Dept. 576-1, R. L. Davis; Dept. 642-1, P. R. Moran; Dept. 682-2, R. B. Brinson and M. D. Hines; Dept. 693-2, V. A. Sundfor; Dept. 715, E. S. Budzinski, C. E. Schultz; Dept. 733, R. E. Reeves; Dept. 744-0, R. S. Flores; Dept. 756-0, A. P. Lupenko (two awards); Dept. 758-0, V. A. Bentley and L. Tocco, G. F. Eggert Jr. and N. Montallegro, V. Tocco; Dept. 759-0, E. A. Jipp, F. J. Mathis and S. Robles; Dept. 814-0, F. L. Wagner; Dept. 819-0, R. C. Dorame and R. P. Earnest; Dept. 972, J. C. Davis and R. R. Lewis, S. S. Stearns.

Cost Improvement Proposal for the same period.

Dept. 140-2, J. J. Brandt.

Retirements

CONVAIR

DE KOEKKOEK—John W., Dept. 250-4. Seniority date June 19, 1958, retired July 1.

DOWNEY—Ernest W., Dept. 362-4. Seniority date Sept. 27, 1956, retired July 12.

GRIFFITH—Robert L., Dept. 451-0. Seniority date Feb. 13, 1953, retired Feb. 3.

HERZER—Donald L., Dept. 250-3. Seniority date Jan. 14, 1952, retired July 1

LIPSCOMB—Joseph H., Dept. 140-0. Seniority date June 26, 1953, retired June 30.

MATTHEWS—Hazel D., Dept. 91-1. Seniority date March 25, 1953, retired May 7.

MC EWAN—Harry F., Dept. 576-3. Seniority date Dec. 11, 1929, retired July 9.

MULLER—Marcus H., Dept. 520-6. Seniority date April 11, 1951, retired July 3.

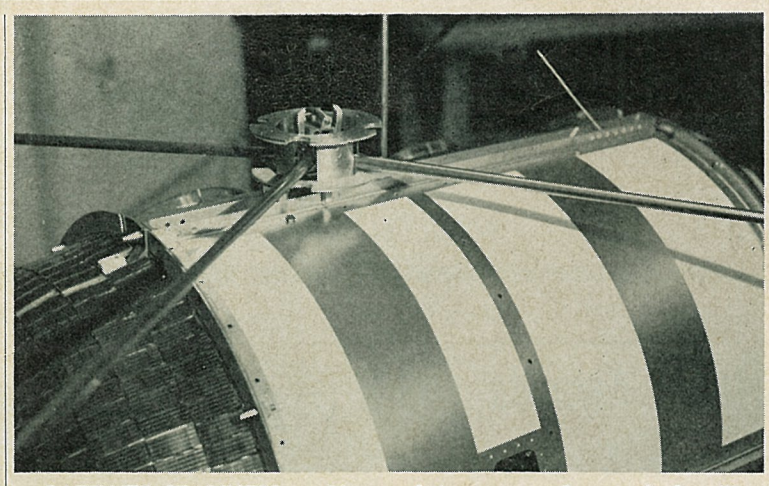
RAYMOND—Ralph, Dept. 452-0. Seniority date Oct. 20, 1958, retired April 11.

RIEHL—John A., Dept. 250-1. Seniority date Feb. 23, 1956, retired May 15.

ROGERS—William P., Dept. 756. Seniority date Jan. 16, 1956, retired July 12.

SUTHERLAND—Gladys E., Dept. 524-3. Seniority date March 22, 1960, retired July 9.

WELLS—George L., Dept. 451. Seniority date July 7, 1954, retired Jan. 5.



SATELLITE STABILIZER — Photo of Aerospace Research Satellite, piggy-back satellite built at Convair for scientific research, with extendable boom system mounted on upper side, showing general principle of deployable booms now in use. Convair will research feasibility of an improved type under NASA study contract.

NASA Orders Feasibility Study On New Type of Space Stabilizer

(Continued from Page 1)

development task. Boom materials currently available — coated or uncoated beryllium copper — are simple, lightweight and reliable, but practical lengths are limited by rod straightness and distortions.

Convair, a pioneer in extendable boom technology, will substitute a woven screen for the thin tape now used. The perforations will allow solar energy, or sunlight, to pass through from one side of the boom to the other equalizing the energy and reducing the temperature differential (difference in expansion and distortion), explained Don Weisinger, process development research group engineer, who will supervise the program.

Two kinds of material will be used in the screen—high conductivity beryllium copper alloy is considered for the circumferential wires and low expansion watchspring type material for longitudinal wires. A brazed joint will facilitate heat transfer between materials.

Existing mechanisms for reeling and unreeling the booms also will be analyzed and fabricated during the year-long program.

Convair specialists will draw on their several years of experience in boom development since its utilization for gravity gradient systems was first proposed in 1960. In that year, the first non-motor driven deployable boom system employing the spring energy in the stored metal tape was developed at the former Astronautics division under the ARE-NTS (advanced research environmental test satellite) program.

Research has continued on boom materials and mechanisms in the years since, said Weisinger, who pointed out that a team of highly-knowledgeable specialists has been assigned to the current project.

H. Ross Wiant, manufacturing and development specialist, will devote full time to the development program as project leader. Wiant has 11 years of experience in the field of fabrication and brazing. He joined Astronautics in 1962 and has been primarily concerned with the field of brazing and soldering as brazing specialists in the welding technology center.

Closely associated with the program in an advisory capacity will be E. H. Wrench who was responsible for development of satellite-borne component behavior experiments for the ARE-NTS satellite and for development of the gravity gradient attitude control system called Vertistat.

Although process development has full responsibility for the program, performance testing and reporting assists will come from at least five other Convair departments—thermodynamics, testing, stress, fabrication, engineering test support, computer operations.

Updating Near In Data Systems

(Continued from Page 1)

sonnel reporting to G. O. Withem, general supervisor of data systems, now are assigned to convert some 2,000 division programs. The rest of the programming group is assigned to maintain these programs, so that no new programming tasks will be attempted, except in extreme emergencies, Withem said.

The conversion project is going ahead right on schedule. Payroll, personnel, accounts payable, accounts receivable, project and overhead budgets, cost ledgers, travel expense ledgers, and consumption inventory applications have been consolidated. Other systems in process of being converted include planning control, inventory control, performance reporting, and engineering configuration control. A study to combine the SLV project and Centaur project task reporting systems (SCORE and COTR) is in process.

SALVAGE SCHEDULE

Kearny Mesa plant salvage yard will be open for employe sales this Saturday (Aug. 21). Lindbergh Field plant's yard will be open Aug. 28. Both will be closed Sept. 4 due to the holiday.

Atlas-Centaur Six Complete Success

(Continued from Page 1)

grammed time); Atlas uprated engines (the Atlas 151-D had 11,000 pounds more thrust than formerly); and retromaneuver (a turn-around maneuver of Centaur to prevent Surveyor from locking onto Centaur as a navigational reference).

The Centaur program is directed for NASA by the Lewis Research Center, Cleveland, Ohio. At Cape Kennedy, AC-6 was readied for flight and then launched by a Convair team under the direction of Launch Operations Branch of NASA's Goddard Space Flight Center.

The Convair launch team was composed of 75 engineers and technicians, but the division has more than 200 persons assigned full time to support Centaur test operations at the Eastern Test Range.

Centaur Launch Operations Manager at ETR is Roger C. Lynch. He served as a Navy officer before joining Convair in 1956.

AC-6 was launched by Daniel Sarokon, test conductor. He joined Convair in 1956 as a propulsion engineer.

Centaur project personnel at ETR include J. E. Hart and J. M. Kechele, Dept. 979-1; T. C. Chitty and J. H. Sylvester, Dept. 979-2; D. J. Merritt, Dept. 979-3; J. S. Miller, Dept. 979-4; and A. T. McArdle, Dept. 979-5.

G. W. Lukas was project engineer assigned to AC-6 at Convair's Kearny Mesa plant.

Convair's current contract with NASA calls for 15 Atlas-Centaur flights including the test flights already accomplished.

Both stages of AC-7 are now at Cape Kennedy preparing for a flight later this year to put a research and development Surveyor vehicle on the moon.

Convair Will 'De-Mothball' F-102s Brought Home From Pacific Area

A contract to "de-mothball" and prepare for flight 60 Air Force F-102 jet interceptors and six TF-102 combat proficiency trainers has been awarded Convair.

The aircraft will arrive at San Diego on aircraft carriers ferrying them from Hawaii and Japan.

The contract was let by Headquarters, San Antonio Air Materiel Area, USAF, Kelly AFB, Texas.

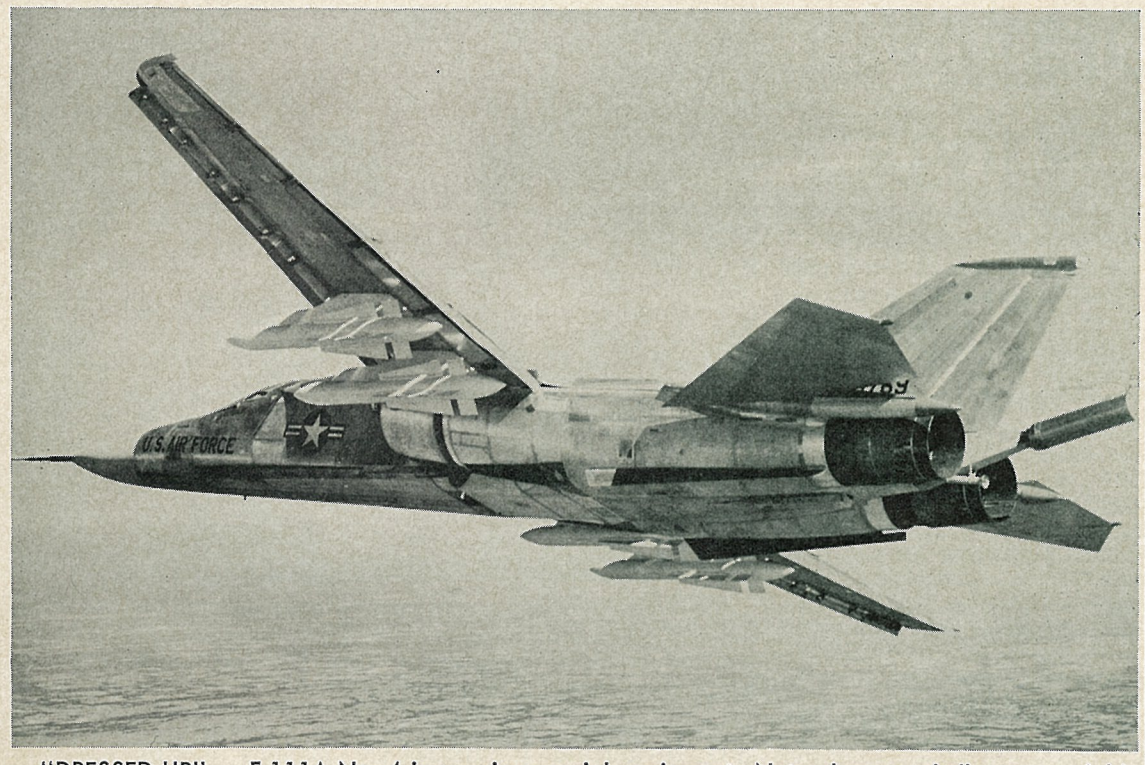
The first shipload of ten planes is scheduled to arrive in mid-August or early September. The interceptors will be off-loaded by crane and towed to Convair's Lindbergh Field plant.

The "de-mothball" process will involve stripping the airplanes of their anti-corrosion protective covering that has been applied for trans-Pacific shipment and removal of dehydrating agents and engine preservatives.

The aircraft will be inspected for damage during transit and parts that had been removed for shipment including nose and main landing gear doors and vertical stabilizer tips will be reinstalled.

After complete checks and ground testing of engines and the hydraulic pneumatic and flight control systems the aircraft will be test flown at San Diego by Air Force pilots. The airplanes will then be readied for delivery and released to Air Force pilots who will ferry the interceptors to new assignments.

The complete sixty-six plane program will extend through April of 1966.



"DRESSED UP" — F-111A No. 4 is carrying special equipment. Note dummy missiles on variable pylons that remain parallel to fuselage regardless of angle of variable wing. Since plane will be used to test F-111's spin characteristics, it is equipped with parachute in metal cylinder at tail, that can be used if necessary in spin recovery.

'Steady' Aviation Advance Predicted As AIAA Panelist Looks to 1985

E. H. Heinemann, General Dynamics vice president program development, was a member of a distinguished panel on the subject of "Aeronautics and Astronautics in 1985" during the annual meeting last month of the American Institute of Aeronautics and Astronautics in San Francisco.

Following are excerpts from his remarks relative to "aircraft in 1985":

"I do not envision any monumental breakthroughs within the next 20 years. Instead, I predict steady incremental advances in aviation, the same steady evolution in aircraft that has been continuing since the Wrights first powered themselves into the air. . .

"Twenty years from now, I believe, the supersonic transport will be in service, but the bulk of passenger and freight traffic will still be carried by subsonic aircraft. . ."

(Although predicting a "steady advance," Heinemann pointed out that this has also been "dramatic" in the past, citing the B-29's speed of 350 mph as compared to the B-58's of over 1300 mph.)

* * *

"In terms of commercial aviation, we must remember that we have hardly dented the potential current market . . . Three out of four adults in this country have never taken an air trip. Reportedly, only two per cent of the world's total population has ever ridden in an airplane. . .

"One of the fastest-growing areas in aviation is air freight. . . When the commercial version of the new C-5A becomes operational—and that's expected in the early 1970s—it has the potential of reducing air ton-mile costs from 15 cents to six cents, which is directly competitive with trucking costs. . ."

* * *

"In the period ahead, I believe we will be 'dollar-bound,' with our progress limited more by economics than by technology. In fact, perhaps what our industry needs is a new breed of individual —a financial engineer, a money wizard as a partner of the aeronautical engineer. He would counsel the engineer on the financial facts of life and help him sell his programs to his own management as well as to customers on a dollars-and-cents business basis as well as an aeronautical basis. . .

"The problem of faster speeds in the future seems to be one of matching finances with technology to determine how bold our programs should be . . ."

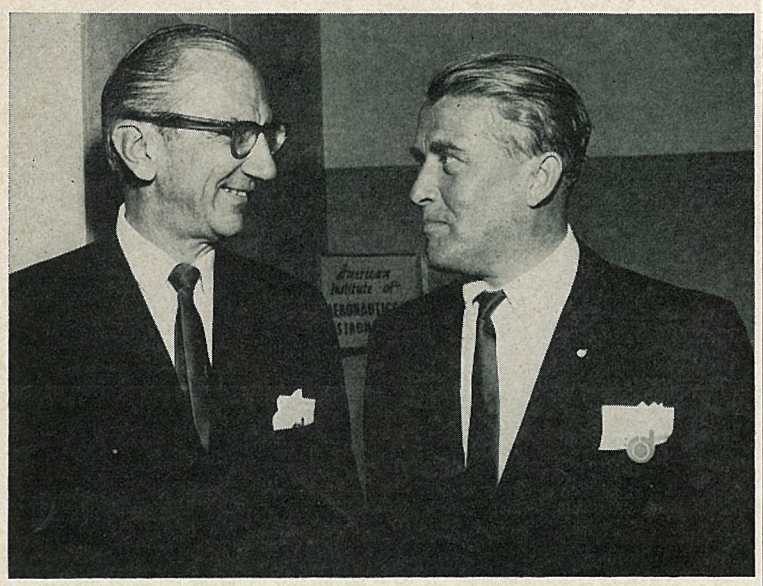
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"For the step beyond the supersonic transport, I believe we should consider developing an orbital transport, an aircraft capable of flying to any spot on earth in less than an hour. . ."

* * *

"What about the man who operates the machinery we develop —the pilot? The requirement for his skills, experience and judgment in aviation's future will certainly increase, not diminish. . . But as aircraft performance increases, demands upon the pilot will increase accordingly. Our responsibility as designers will be to provide the best possible man-machine relationship in the form of the best possible structure, instrumentation and controls.

"All too many cases of so-called pilot error today should actually be defined as improper presentation of data or improper design of control to permit the pilot to respond properly to an emergency. Automation may replace operations in some other fields but I doubt we will arrive at that state with aircraft . . ."



PANELISTS — E. H. Heinemann, left, General Dynamics vice president program development, chats with Wernher M. von Braun, director, NASA Marshall Space Flight Center, during break in panel sessions at American Institute of Aeronautics and Astronautics gathering in San Francisco.

GD/FW Sr. Engineer Wins National Post

J. E. Burroughs, GD/Fort Worth senior design engineer, has been elected secretary of the National Society of Aerospace Materials and Processes Engineers.

He was installed at the society's recent meeting in San Francisco.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

FREDERICK R. SCHROEDER (1959) from Corporate (Los Angeles Field office) to Corporate international group as Australian-New Zealand representative with headquarters in Canberra, Australia.

ROBERT CARBONNEAU (1956) from Convair to Electric Boat; **CHARLES R. WALKER JR.** (1944) from Convair to AIS program, Electronics (San Diego); **WILLIAM J. MALONEY JR.** (1962) from Convair to Canadair; **EARL B. GARDNER** (1955) from Pomona to Convair engineering; **ROY A. KRAVA JR.** (1956) from Convair to Canadair; **JAMES P. MORRIS** (1960) from Electronics (San Diego) to manufacturing engineering, Electronics (Rochester).

RAYMOND E. GEISERT (1959) from Convair to Electric Boat; **ROBERT V. SHIELDS** (1953) from Convair to Canadair; **CEZAR J. BANKS** (1958) from Electronics (San Diego) to Convair engineering; **ELMER J. STEEGER** (1952) from Convair to General Atomic; **ANDREW S. PAUKOVEC** (1960) from Electronics (San Diego) to program analyst, Convair; **JOSEPH A. JAMES** (1943) from Convair to senior price estimator, Pomona; **ORVILLE B. JOHNSON** (1957) from Convair to logistics support, Fort Worth; **WILBUR A. HUOT** (1950) from Fort Worth to Electronics (Rochester).

NATIONAL DRIVERS TEST

TEST FORM

A. JUDGMENT
Defensive Driving Techniques
circle correct letter

	Score
1. a. b. c. d.	☐
2. a. b. c. d.	☐
3. a. b. c. d.	☐

B. KNOWLEDGE
Rules of the Road:
circle T (true) or F (false)

Score	Score	Score
1. T.F. ☐	6. T.F. ☐	11. T.F. ☐
2. T.F. ☐	7. T.F. ☐	12. T.F. ☐
3. T.F. ☐	8. T.F. ☐	13. T.F. ☐
4. T.F. ☐	9. T.F. ☐	14. T.F. ☐
5. T.F. ☐	10. T.F. ☐	15. T.F. ☐

C. PERCEPTION
Hazards Alertness

1. List the number of driving hazards you have seen

NUMBER ( ) SCORE ☐

D. SPECIAL
circle correct letter

	Score
1. a. b. c. d.	☐
2. a. b. c. d.	☐

TOTAL SCORE ☐

Test form above, used for May 30 showing of "National Drivers Test" over CBS television, will be applicable when show is re-televised Aug. 30. More than 26 million participated in the May 30 program. They, and other millions, will have a chance to take the "test" over again.

Electro Dynamic Buys Blower And Fan Business in Expansion

Electro Dynamic division has purchased all the Navy and maritime standard fan and blower business of the L. J. Wing Manufacturing division of Aero-Flow Dynamics, Inc., Linden, New Jersey.

Raymond B. Carey Jr., Electro Dynamic president, said the new product line was acquired to extend activities into the field of military and merchant surface ships.

In the transaction, Electro Dynamic acquired all finished inventory, work in process, order backlog, tooling, designs, patterns and test data involving the line of fans and blowers.

The newly acquired line includes a wide variety of standard general-purpose fans and blowers used aboard all types of surface vessels.

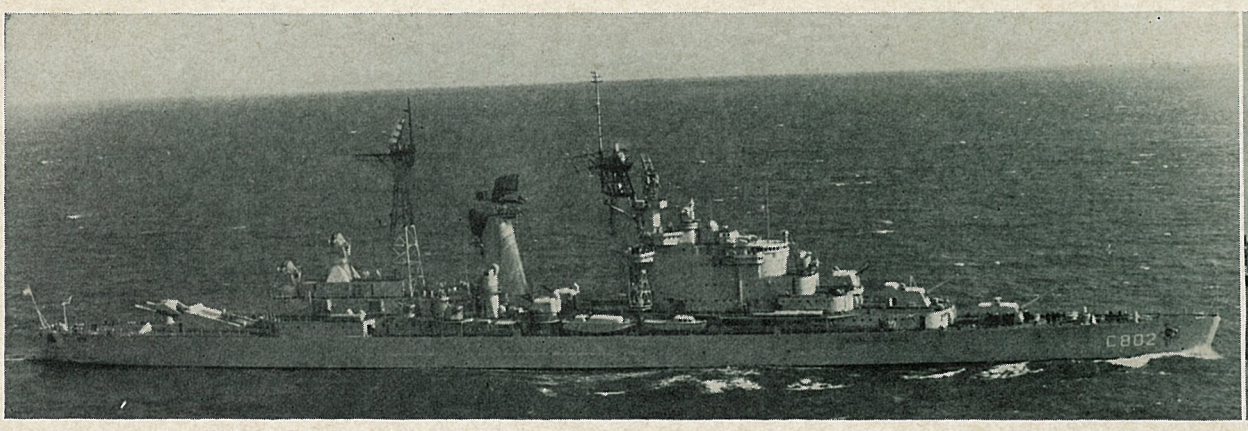
Carey explained, "This is another step consistent with Electro Dynamic's policy of growth both from within General Dynamics and from without. For example, during the past two years we have grown internally by integrating the DYNAPAK high energy metalworking machine line from Convair division, and the former blower products group from Electric Boat."

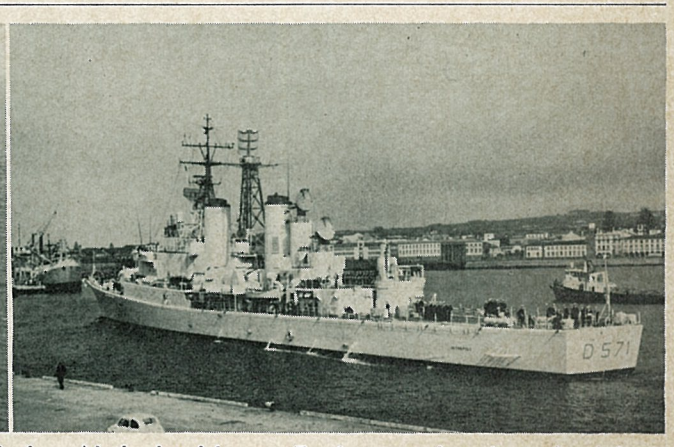
Convair Man First In 'Jumping' Class

Harry M. Black of Convair Dept. 451-0 had the "honor" of being in the first group of some 500 men from Army Special Forces—Airborne Reserve unit to make first jumps during parachute training at Fort Benning, Ga., last month. He subsequently earned parachutist rating. Black served with the Marines in the South Pacific during WWII.

GD MEN ELECTED BY MGT. ASSN.

Bob Macomber of Convair and Joe Cyranek of Stromberg-Carlson Data Products hold top offices on the new slate of the San Diego Area Council of National Management Association. Macomber is executive vice president and Cyranek, treasurer.





ABOVE AND BELOW—General Dynamics products are at sea, not only below surface (as with Electric Boat-built submarines) but on surface as well, as in case of Terrier and Tartar missiles, built for U.S. Navy at GD/Pomona. At left above is HNLM De Zeven Provincien, Netherlands' new Terrier-armed cruiser. At right is destroyer Intrepido, second Italian Navy destroyer to carry Tartars. France, Australia and Japan also have warships carrying either Terrier or Tartar.

Spares Inventory Drawn For First Two F-111 Wings

Spares for the first two wings of tactical F-111s were submitted to the Air Force for approval last month through a system that promises to greatly expedite initial orders.

The parts were the first of 35,000 items — ranging from tiny bolts to F-111 wings — which will be considered for approval by a GD/Fort Worth-based Air Force Resident Provisioning Team.

"We'll process from 3,500 to 4,000 items a month once we move into high gear," said W. A. McQuary, chief of the provisioning team.

With the first "spares milestone" passed, the team is readying for another: the Hi-Value Conference at GD/Fort Worth Aug. 17.

About 900 "hi valu" assemblies for F-111 tactical equipping —representing about 60 per cent of the money earmarked for initial provisioning of spares at tactical bases — will be reviewed.

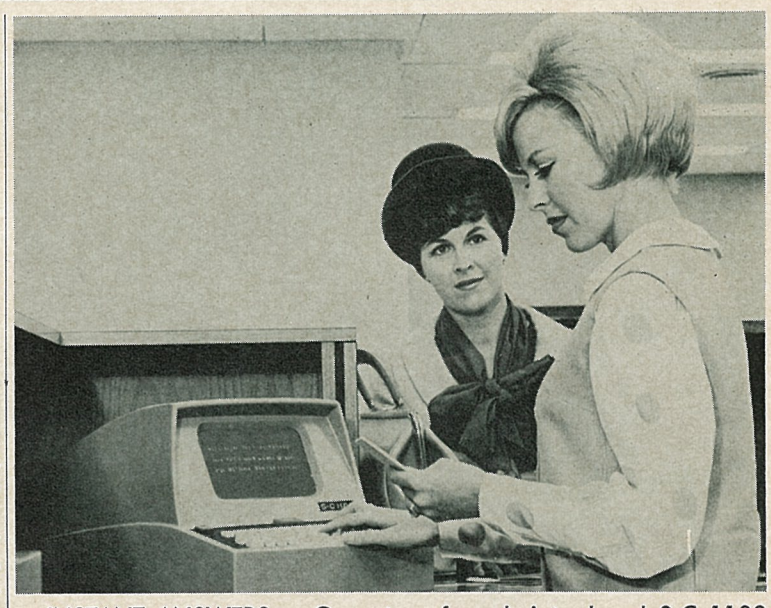
"The Resident Provisioning Team concept has saved up to 100 days on deliveries in missile programs," said Ben Fay, chief of F-111 supply. "We feel the program will definitely help speed delivery of first F-111 spare parts. The team is available on a daily basis — and they're knowledgeable.

"In the past, contractor proposals had to be mailed to inventory managers. These managers, in addition to their regular duties, then ordered new weapon parts."

Once the spares item is approved, the team sends complete copies of the part — blueprint, specifications, documents — to the appropriate depot via a facsimile transmission machine.

The depot "confirms" on an incoming facsimile machine at GD/FW. Thus days, often weeks spent in mailing data are saved.

"Overall purpose of the new provisioning team concept is to have the spares ready and waiting when the first tactical F-111s arrive on base," Fay said. "Once the program is firmly established, spares will move through regular Air Force channels."



INSTANT ANSWERS — Operator of newly-introduced S-C 1100 Inquiry Display System reads data flashed on equipment's cathode ray tube screen in immediate response to inquiry entered on keyboard and transmitted to computer.

S-C's Data Products Adds New Line of Electronic Displays

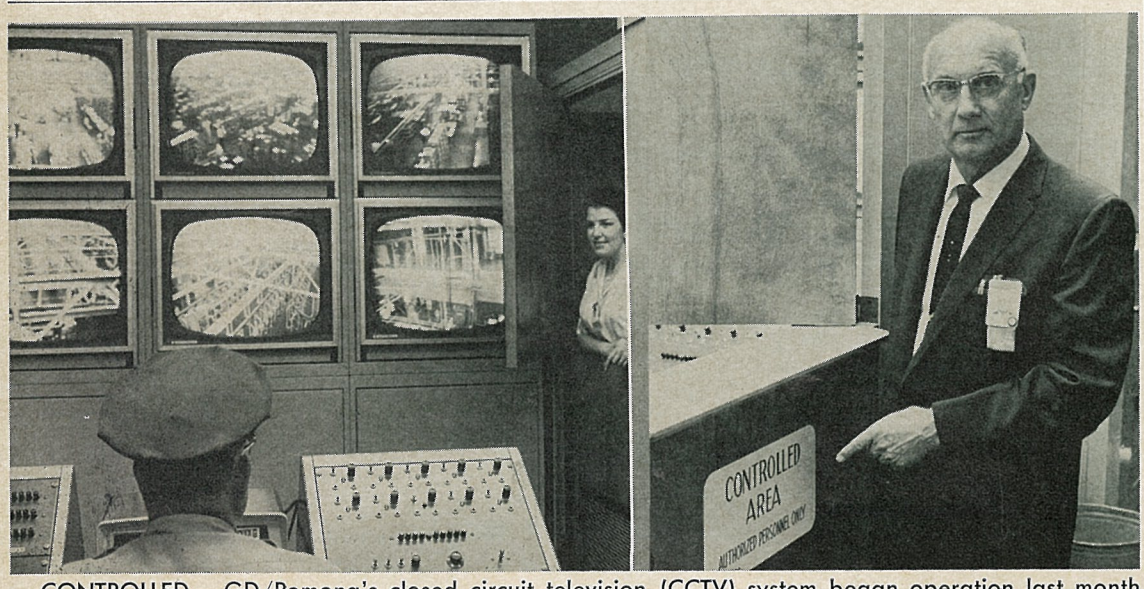
Stromberg-Carlson Corp. has introduced new display equipment, the S-C 1100 Inquiry Display System, as it expands its product line in the business data handling field.

The new product line was obtained by acquisition of the assets of Information Products Corporation from Renwell Industries this spring. The items will be manufactured and marketed by Stromberg-Carlson's Data Products facilities in San Diego, according to James H. Redman, marketing manager.

The main element of the S-C 1100 system is a desk-top interrogator which looks like a compact adding machine with a small TV screen. Its primary purpose is to provide high speed electronic inquiry and display of computer-stored information. It also can provide a method for entering new data into a computer's memory.

The S-C 1100 is designed to speed operations and decrease costs of organizations, such as banks, utilities, insurance companies, employing data processing systems. The equipment can be operated by anyone after only a few minutes' instruction.

Included in the new line of Stromberg-Carlson products is a control unit which provides all the necessary controls to multiplex up to 24 interrogators. A computer interconnect also is supplied by Stromberg-Carlson to link the S-C 1100 to the customer's computer equipment.



CONTROLLED—GD/Pomona's closed circuit television (CCTV) system began operation last month to provide maximum security at minimum cost in four areas of Bldg. 2. Guard C. E. Cross is at controls inside controlled area with Sandra Strike (Dept. 3) at communications door arranged to close off view of monitors. Guard Chief L. E. Haley (right) emphasizes that authorized personnel (industrial security section people) only are admitted to control room.

Classified Areas Monitored by TV To Achieve Maximum Security

GD/Pomona's closed circuit television (CCTV) system was placed in operation last month to provide a new and more effective means of maintaining maximum security at minimum cost, R. S. Benton, manager of industrial security, announced.

The CCTV system is used for security purposes only.

Ten cameras are located in four areas of Bldg. 4—test equipment manufacturing and maintenance, electronic assembly, missile checkout and hydraulic. These areas require strict security measures because of the classified hardware which cannot be stored. Constant surveillance, as provided by CCTV, is required.

All cameras are monitored by a security guard at a central control station located in a controlled-access area of the security building. Industrial security section personnel only are authorized in the room. The operator at the control station is in constant communication by two-way radio with security personnel in the Bldg. 2 areas under surveillance.

"CCTV gives GD/Pomona the latest in security equipment," Benton said.

Basic responsibility of the individual employe to protect classified material and to challenge any unauthorized person entering his area is not changed by the CCTV system. Classified material cannot be left unattended at any time.

College Credit Classes Slated

Registration opens next Monday (Aug. 23) for college credit courses to be offered Convair people this fall at Kearny Mesa and Lindbergh Field plants.

Seven in-plant courses will be given after hours at Kearny Mesa and two technical writing courses will be held at Lindbergh Field. All are given in cooperation with San Diego City College and carry college credit. First sessions start the week of Sept. 13.

Kearny Mesa courses to be held in Bldg. 17 are: Math 17a, Mathematics for Electricity and Electronics," Thursdays; Math 19, "Calculus for Electronics," Thursdays; Accounting 14a, "Accounting Principles," Tuesdays and Thursdays; Electronics 75, "Introduction to Computer Systems," Mondays; Business Law 1, "General Business Law," Thursdays; Technical Writing 1, Mondays; Technical Writing 4, "Advanced Technical Writing," Wednesdays.

Lindbergh Field, Bldg. 14: Technical Writing 5, "Technical Proposal Writing," Wednesdays; Technical Writing 50, "English for Technical Writing," Tuesdays.

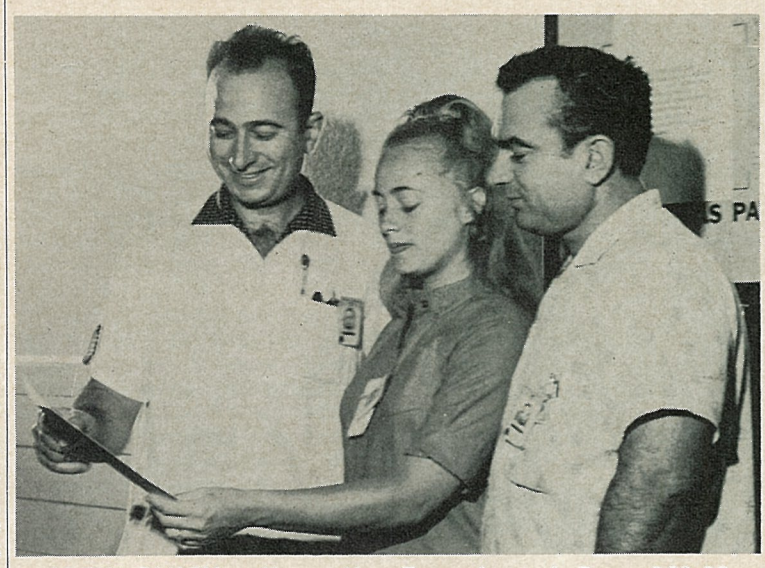
Registration may be made Aug. 23 through 26, between 3:30 and 5:30 p.m. at Kearny Mesa, Bldg. 17, Room 8, or Lindbergh Field, Bldg. 14, Room 8. Applications should be obtained at educational services offices, completed, and submitted at registration.

For complete information on course descriptions and applications contact either Dick Forrest, ext. 1931, Kearny Mesa, or Wayne Turner, ext. 491, Lindbergh Field.

Convair Wives Slate Two Major Contests

Two major events are on the calendar this month for Convair Wives: a sewing contest today (Aug. 18) at the regular monthly luncheon meeting at Bali Hai on Shelter Island and a baking contest next week (Aug. 25).

Contestants in today's Sew and Show contest will model their creations. Next Wednesday's contest will be held after the regular potluck in the CRA Clubhouse on Kearny Mesa.



IN THE FAMILY — Keeva Mae Tocco (center), Dept. 250-20 at Kearny Mesa plant, joins her brothers-in-law at Air Force Plant 19 to celebrate latest of many ES awards given to Tocco family members. Vito Tocco (left) submitted two Employe Suggestions in April. Both were approved. Louis Tocco's last approved ES was submitted in June.

Tocco Family Is 'Triple Threat' When it Comes to ES Awards

Vito Tocco, his brother, Louis, and their sister-in-law, Keeva Mae, have worked for Convair a total of 26 years. During that time they have submitted more than 20 Employe Suggestions. About half of them have been accepted and rewarded.

Vito is a spotwelder in Dept. 758 (Air Force Plant 19) where Louis is a leadman. Keeva Mae is a control clerk in Dept. 250-20 at the Kearny Mesa plant.

In June, Louis (and V. A. Bentley, Dept. 758) submitted an ES for guiding overlap welds on liquid oxygen duct flanges. The ES was approved for a savings of $1,150.50.

In April, Vito submitted one ES to make a tool foolproof in use, and another ES to use a tool to lay out spot weld patterns. Vito was awarded $10 for intangible savings on the first ES, and $28.50 for savings of $285 on the second ES.

Keeva Mae's last ES award was in April when she received $31.50 for suggesting a way to improve records control.

Fall Sessions Near In Adult Education

GD people who plan to go back to school this fall, either to complete high school requirements or advance their education in specialized courses, are alerted that fall semester classes under the Adult Education program begin the week of Sept. 13.

Six adult schools are involved in the system—San Diego Evening High School, Hoover, Memorial, Northwestern, Midway, Lincoln Adult Highs.

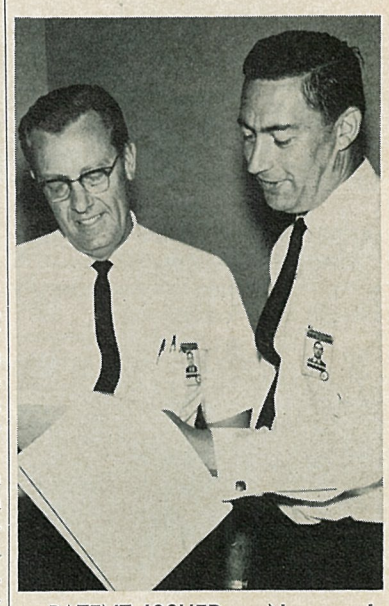
Advance registration for some courses begins Aug. 30; others require only enrollment at first class session. Information and class schedules may be obtained by calling the Adult High School Office, 1221 Fourth Ave., 239-3718.

DEADLINE NEAR ON ENROLLMENT

Final day for enrollment at any San Diego Junior College, including the San Diego Evening College, for the fall semester is Sept. 7 with Sept. 1 the deadline for degree or certificate students to file applications. Fall semester classes begin Sept. 13.

Applications for admission should be submitted to the Dean of Students Office at City campus, 1425 Russ Blvd., or Mesa campus, 7250 Artillery Drive. Continuing students, those enrolled at the present time, should register by this Friday (Aug. 20). Registration of new students will be taken between Aug. 23 and Sept. 7.

Enrollment center for all classes is at 835 12th Ave. For information contact Convair educational services or SD Junior Colleges' admission office, 234-8451.



PATENT ISSUED — Norman L. Gallon, left, and John Bond, GD/Pomona, discuss patent issued on mechanical coupling device. Co-inventors are Gallon and Henry Morris, former employe. Patent plan provides $50 when application is made, an additional $50 when patent is obtained, and share in any royalties if licensed for U.S. use. Payments are made even if inventor leaves Company.

Royal Air Force Visitors View F-111 Production

British government officials visited GD/Fort Worth July 28-30 for a conference on the F-111 program.

Headed by Air Marshal Sir Christopher Hartley, Deputy Chief of Air Staff, Royal Air Force, the visitors conferred with Frank W. Davis, Fort Worth president, and other GD/FW officials.

GD/FW is building F-111s for the U. S. Air Force, U. S. Navy, and Royal Australian Air Force.

Other visitors included: Air Commander E. James, director, operations requirements, Ministry of Defense; Lewis Frederick Nicholson, deputy director (aircraft), Royal Aircraft Establishment; R. H. Plascott, assistant director, project analysis, Ministry of Aviation.

Andrew Stratton, head, research group, Royal Aircraft Establishment, Ministry of Aviation; J. M. N. Willis, defense research development staff, Washington, D.C.; and Squadron Leader W. A. Mears, O. R. 29, Ministry of Defense (NAV/Attack Systems).

S-C Expanding At Rochester

Stromberg-Carlson Corp. will spend $1.2 million to expand telephone switchboard manufacturing facilities at its Rochester, N.Y. plant, Dause L. Bibby, president, announced recently.

Orders for XY dial switching equipment have reached an all-time high, and switchboard production already is 17 per cent higher than at the end of 1964, Bibby said. Earlier this year Stromberg-Carlson expanded its night shift to meet production schedules.

"Orders from telephone operating companies have reached an all-time high," Bibby said, "and we expect that this level of business will continue for the foreseeable future."

Letters to the Editor

I have noticed that GD/NEWS publishes pictures of engineers, secretaries, military personnel, missiles, aircraft etc., but you never give recognition to the men who work on the board drawing the documents to build the products. I think they deserve a little recognition. Yes, I'm one of them.

(Unsigned)

* * *

ED: GD/NEWS of June 23, 1965 carried a story and photo of W. A. Nutt, draftsman, whose suggestion saved $30,586 and earned him an award of $3,058.

However, we'll see if in future we can give these fine people a bit more attention.

GD/E's Employment Of Deaf Described

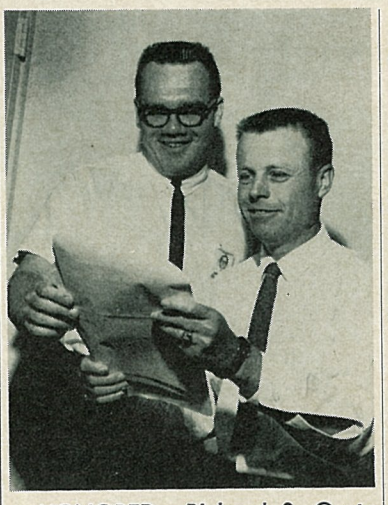
The July-August issue of "Performance," a publication of the President's Committee on Employment of the Handicapped, carried an article describing deaf workers at GD/Electronics in Rochester.

The five named, deaf from birth or infancy, have collective employment of 45 years and all with good work records. Two are in the machine shop, two in manufacturing assembly and one is a janitor.

Teen Club Affairs Back at Clubhouse

Teen Club affairs have been switched again — this time back to the CRA Clubhouse at Kearny Mesa.

Next dance will be this Saturday (Aug. 21) from 8 p.m. till midnight to the music of two bands, "Topics" and "Impalas." Dressy school clothes are appropriate and each member is entitled to bring an escort as guest and another guest couple.



HONORED—Richard S. Grote (left) and Dr. Blaine R. Parkin of Convair review their paper, "Inverse Methods in Linearized Theory of Fully-Cavitating Hydrofoils" which won Robert T. Knapp award of Fluids Engineering Division of the American Society of Mechanical Engineers. Award honors authors of outstanding thesis or paper based upon analytical or laboratory research in fluid mechanics.

Peace Corps Class Hears Convair Man

Peace Corps trainees preparing at San Diego State College for assignment to Colombia, were addressed recently by L. J. Fogel, Convair Dept. 590-01, on science and scientific methods.

In a letter to P. D. Ferrara, Convair director of engineering administration, R. F. Wilcox, assistant project director of the Peace Corps' Colombia Urban Community Development project, complimented Fogel on the presentation and added "there are few people who can interpret science to the layman as he can."

There's Still Room On Las Vegas Trips

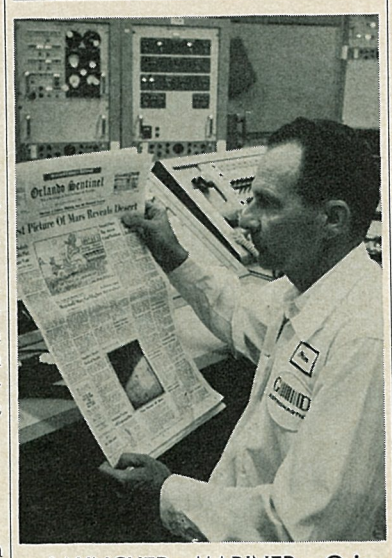
There are still openings for either of the two weekend trips to Las Vegas coming up within the next three weeks.

Both the Aug. 27-29 trip and the Sept. 10-12 tour are filling fast, but there is room for more. Make reservations through CRA Headquarters, ext. 1111, Kearny Mesa, immediately.

Trips are $25 each for transportation and two nights' hotel accommodations. The August group will stay at the Stardust Hotel, and the September tour will be booked in the Mint Hotel.

STEPICH NAMED DISPATCH CHIEF

M. S. Stepich has been named chief of dispatch, reporting to F. D. Robbins, Convair manager of production control. Replacing Stepich as chief of material operations at the Lindbergh Field plant is W. C. Buxton, who will report to H. E. Moose, director of material.



LAUNCHED MARINER—Orion Reed, GD/Convair's launch conductor at Cape Kennedy, looks at picture of Mars, transmitted to earth by Mariner 4. He took more than casual interest, for Reed was launch conductor who pushed button to send Mars fly-by vehicle on 325-million mile journey. Reed also launched all the successful Ranger spacecraft which took pictures of moon's surface, and the successful Mariner Venus fly-by spacecraft.

Mgt. Club to Sponsor Two Jr. Achievement Companies This Year

Two Junior Achievement companies for teen-age businessmen will be sponsored again this year by Convair Management Club with the first advisers' meeting scheduled for Aug. 23 at the new Jr. Achievement Center, 3729 University Ave.

All Convair employes' children, in 10th to 12th grades and between the ages of 15 and 19 by this Dec. 31, are eligible for membership in the JA companies. Each company is made up of 20 to 25 students, organized and operated in the same manner as a miniature corporation. Companies elect officers, select their own products or services, sell stock, set up production, plan distribution, advertise, pay themselves, keep books, and pay dividends—if they make money.

Several Management Club members are needed to act as advisers.

Student application blanks now are available at Convair employe services outlets. Also, information and application forms may be obtained at the Kearny Mesa plant from Paul Gelles, ext. 4504, or Jim Ball, ext. 3247, and at the Lindbergh Field plant from L. J. "Slim" Solheid, ext. 2035.

Newsletter Reports On 600's Progress

All operators of Convair-Liners in this country and abroad received the first issue of a monthly Convair-Liner Newsletter early this month with the publication of Vol. 1, No. 1 the first of August.

The Newsletter presently has a distribution of around 350, to operators, vendors, and other related companies and agencies. It will keep operators informed of maintenance and servicing information on Convair-Liner series aircraft and carry information of interest on the Convair 600, which mates the Convair-Liner with Rolls-Royce Dart turboprop engines.

As Convair 600 aircraft enter airline service, the Newsletter will provide operators with maintenance and servicing information on these aircraft and engines.

Convair-Liners, Models 240, 340 and 440, now are in service with 14 domestic and 23 foreign airlines, four foreign governments, seven U.S. government agencies, and 60 executive operators.

Williamson Leads In Master's Class

Commissioner Joe Williamson topped .22-cal. Police Course competition by shooting a 290 in the master's class at CRA Pistol Club's Aug. 8 matches.

In second spot was Carl Jensen just a point behind.

Angrim Carlson took the expert class by an X. He and Dale Young both shot 277s.

Byron Clapper was top sharpshooter with 244. Bob Brindle was runner-up with 180.

In Short National center-fire Roland Schneider was first with 255.

ROAD RUNNERS SCHEDULE EXTRA AUGUST OUTING

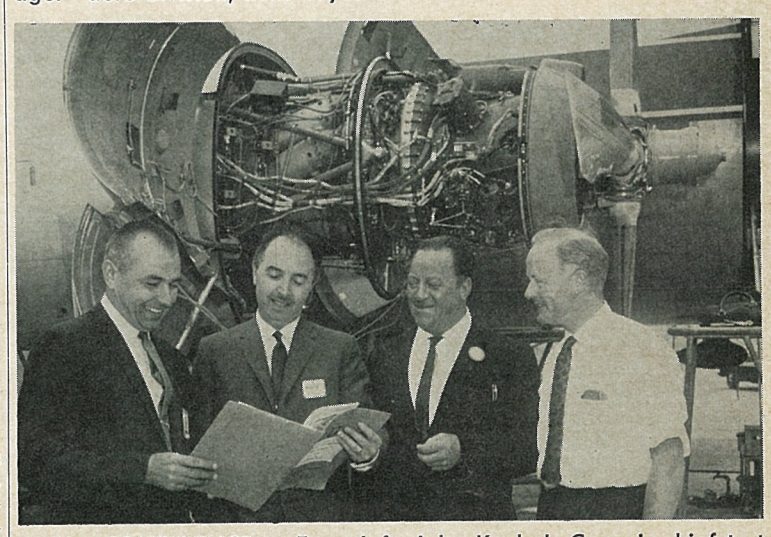
Road Runners will travel to Paradise Hide-Away at Guatay, about 35 miles from San Diego, for an extra outing this month. Ray Devin will be wagonmaster for the Aug. 27-29 camp-out. All General Dynamics families with trailers or campers are invited. Call Herb McDowell, 469-0370, or Ralph East, ext. 1141, Lindbergh Field plant, for information.

EVENING CRUISES OFFERED ANGLERS

Evening fishing cruises are offered General Dynamics anglers at discount prices by Mission Bay Sportfishing through exchange tickets available at all employe services outlets. The tickets are good for $1 discount on regular half or all-day trips as well as the twilight trips, from 6 to 10:30 p.m.



TEAMWORK — Convair 600 conversion progress was reviewed recently at GD/Convair by Fred T. Hinkley, right, commercial director of Rolls-Royce Ltd., England; J. H. Famme, center, Convair vice president - aircraft programs; and John Waite, left, sales manager - aero division, Rolls-Royce of Canada Ltd.



600 CONFERENCE — From left, John Knebel, Convair chief test pilot, and Cliff Rogers, chief test pilot for Rolls-Royce, Ltd., Derby, England, check Convair 600 manual before recent test flight of prototype. Terry Small, Rolls-Royce technical service representative based at Convair, and Frank Regan, Dowty-Rotol Ltd. propellor performance engineer from Cheltenham, England, in San Diego for propellor strain gage tests, are at right.

'Just Great!' Says Capt. Don Davis, First Navy Pilot Checked in F-111

"It was just great."

This was Capt. Donald C. Davis' terse observation following his first flight in an F-111 at Edwards AFB July 27.

Captain Davis, assistant deputy F-111B, systems project office, completed the two-hour, 15-minute flight with Fred Voorhies of GD/Fort Worth flight department as checkout pilot.

A top speed of about 460 miles an hour and altitude of 14,500 feet were attained during the routine operation. The wing was swept fully, from 16 degrees to 72.5 degrees at the furthermost point.

Captain Davis has logged over 5,500 flying hours — more than 3,600 of which have been in jet fighters. He served in the Pacific in World War II and as a fighter pilot in Korea.

Captain Davis has served as past commander of squadrons and wings on various ships, including the Ticonderoga, Bon Homme Richard, Midway, Constellation, Princeton and Lexington.

Rubottom Appointed To Training Post

Herbert W. Rubottom, former chief of educational services at Convair, now Lindbergh Field plant, until his retirement the end of last year, has been named executive director of the San Diego Mayor's Committee for Jobs.

He will supervise a federally-financed manpower retraining program under a Labor Department grant. Goal is to provide on-the-job training for 700 presently unskilled, unemployed persons in the next year and a half. Rubottom's offices at present are at 1927 Fifth Ave. in the Bureau of Apprenticeship and Training field office.



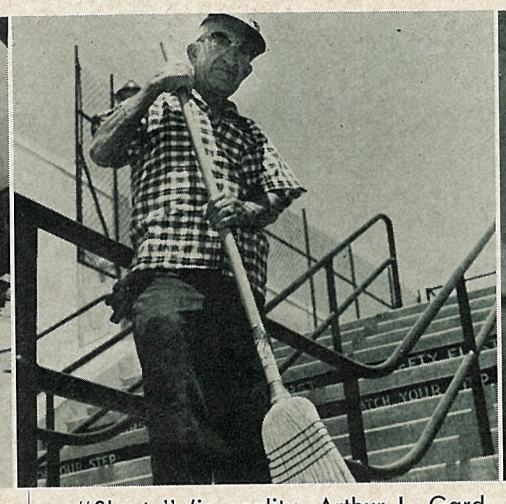
NEW HABITAT — Star 1, tiny one-man submarine, is checked by James Hall, staff engineer at General Dynamics' newly-established Marine Technology Center in San Diego, and Robert A. Toher, designer, as it was unloaded Aug. 6 at Harbor Drive Test Site. Submarine was flown cross-country from Groton, Conn., to Los Angeles and trucked to San Diego.

Convair Personalities . . .

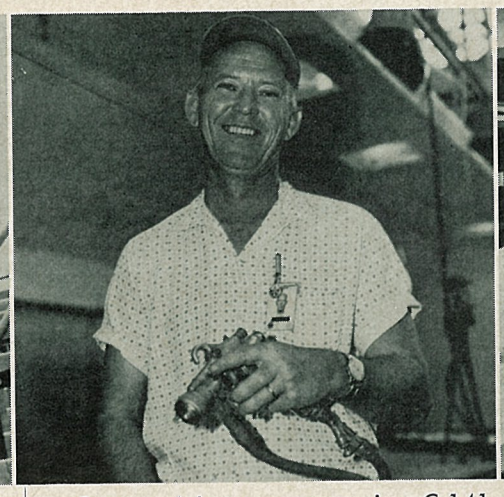
Know these people? Their jobs are vastly different and they work in areas perhaps remote from your own, but they—and you—have one big thing in common. All work for Convair division of General Dynamics.



Larry L. Flood, design draftsman in Dept. 523-4 at the Kearny Mesa plant, joined Convair in 1957 as an engineering aide. Born in Sioux City, Iowa, he served in the Navy during 1952-1956 as a signalman-quartermaster. Since coming to San Diego, Larry has spent a great deal of his own time to advance his general and professional knowledge. He has earned an Associate of Arts degree from San Diego City College, and about 100 units at San Diego State College. He is now enrolled (under Convair's tuition refund plan) in drawing and oil painting classes at the University of California, San Diego. As a design draftsman, Larry does isometric illustrations of electrical harnesses and tube routings on SLV-3 and Centaur vehicles.



"Shorty" (in reality, Arthur L. Gardner) sweeps streets and overpasses at Lindbergh Field plant. Employes tell the time of day by Shorty — his routine is so regular from the moment he begins his working day washing lobby doors until the last sweep of his broom. He has been in maintenance at Convair since 1943, with the exception of a year's layoff. Until assigned to sweeping some three years ago, he was a familiar sight herding his electric "pony" around the plant on maintenance duties. "I really like this job," he says. "It keeps me moving." Born in Ohio, he moved as a child of 2 with his family to Oregon where he lived until he came to San Diego and Convair 22 years ago. A bachelor, he lives with a cousin and her husband on Grove St.



George Adams was spraying C-141 stringers in the Bldg. 1 paint shop at Lindbergh Field plant when the roving photographer snapped this photo. Adams has worked at Convair since 1942 and all but four years in the division's paint operations at various locations — former Plant 2, the ramp, Bldg. 4, and "just about everywhere," he said. During the war years he was in template reproduction in the photo lab, photographing master layouts. A man of many hobbies — "I guess I was born collecting!" — he has 10,000 stamps and an extensive coin collection. And then, he keeps trim playing tennis with his two teen-age daughters or horseshoes with friends. However, his consuming interest is a cattle ranch he owns with his father near Waco, Texas.



Each month Sue Magee classifies, cross-references and catalogs about 2,500 still photo negatives in the still photo lab at Kearny Mesa. Her job is to be sure that each of the more than 300,000 still photo negatives can be found when needed. Sue and her husband, Paul, moved from Illinois to San Diego four years ago so that Paul could have more opportunity as an electronics technician on digital devices. Sue's hobby is fancy cooking and she specializes in molded salads and "cookies with frosting." She recently completed a four-month evening course in speed-writing and says it comes in handy when taking information over the phone. Sue and Paul have a daughter, Caye, 8, and a son, Mark, 20 months.



GOOD LUCK! — E. D. Bryant, Convair vice president-operations. left, talks over John Strachan's farewell gift, movie projector and screen, at retirement party held for Strachan and A. E. Brennan (right) by fellow workers in Dept. 031 at Lindbergh Field plant. Brennan was surprised by workshop equipment as his gift from company.

John Strachan and Art Brennan, Pioneer Aircraft Men, Retire

Two long-time Convair men, John Strachan and Art Brennan, who together have totaled nearly 75 years with the company since they joined Consolidated Aircraft Co. in Buffalo, N. Y., shared farewell honors when they were feted on their last day at Convair, July 31.

Both were in Dept. 031, experimental, at Lindbergh Field plant at the time of their retirement. Brennan would have observed his 40th anniversary this fall, and Strachan, his 35th. Both had been valued employes throughout the years—spent mostly in supervision of production operations.

Brennan, a native of Buffalo began his aircraft career in 1917 as a woodworker in the wing department of Curtiss Aircraft's old Churchill St. plant. After the first World War when there was no demand for aircraft workers, he moved over to the Pierce-Arrow plant to build wooden auto bodies. He started with Consolidated in November, 1925, also in the wooden wing department.

When Consolidated built its own airport Brennan left the factory to serve as a mechanic with the "airport crew," received his aircraft and engine license, and went along with the company's test pilot, Bill Wheatley, to service test planes during demonstrations for the Army and Navy. After moving with the company to San Diego he was in supervisory posts in final assembly on practically all of Convair's planes.

Strachan was born in Greenock, Scotland, where he took a five-year apprenticeship in marine engineering. He arrived at New York via Canada in the late '20s and worked at both Curtiss and Hall aircraft companies before joining Consolidated in bench metal section. He was leadman in the wing department at the company's move to San Diego and has been considered an expert in wing production during the years since.

He helped develop shop application of the Scotchweld process, the method of sealing a wing to make it an integral fuel tank used on Convair's jet interceptors and jet transports. The Straylor rivet which is used in conjunction with the Scotchweld sealing method, combines the name of Strachan and co-inventor, Romy Taylor, still with Convair.

Both Strachan and Brennan intend to spend a great deal of their free time traveling and pursuing their favorite pastimes—hunting and fishing for Strachan and woodworking for Brennan.

'GD Night' Scheduled, Circle Arts, Sept. 3

Reduced-price tickets now are on sale at all employe services outlets and CRA Clubhouse to the next "GD night" at Circle Arts Theatre, Sept. 3.

The performance will star Jose Ferrer in "A Funny Thing Happened On the Way to the Forum." Discount prices, through CRA arrangements, are $3.30, $2.85, $2.35, $1.85.

All unsold tickets must be returned one week in advance of the show date, so theater-goers are urged to obtain their ducats as soon as possible to avoid disappointment.

CONTRACT PRICING MANAGER APPOINTED

Allan D. Albright has joined GD/Convair as manager of contract pricing, reporting to C. L. Meador, vice president of contracts and commercial sales, Division President J. R. Dempsey announced last week.



A. D. Albright

Albright will be primarily responsible for development of price quotations for new business.

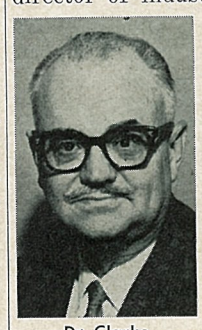
Albright, a contract pricing specialist, has had 27 years' experience in aerospace and aircraft with the last 10 years in pricing activities.

He comes to Convair from North American Aviation, Inc., Los Angeles, Calif., where he had been pricing administrator since 1962, supervising the pricing, negotiations, statistical cost reporting and development of statistics on advanced aerospace and research and development programs.

A native of Philadelphia, Pa., Albright received his education in California. He had been with North American since 1937.

Dr. Clarke Appointed Chief Plant Physician

Dr. G. M. Clarke has been appointed chief plant physician at GD/Convair with full responsibility for the central medical section, reporting to M. V. Wisdom, director of industrial relations.



Dr. Clarke

Dr. Clarke, plant physician at Lindbergh Field plant since 1962, succeeds Dr. A. J. Bellanca who has left the company. He will have his headquarters at Kearny Mesa.

Dr. Robert Wells, who joined the company the last of July, will be based full time at Lindbergh Field.

Dr. Wells was a flight surgeon in the U.S. Navy before joining Convair. His most recent assignment was senior medical officer aboard the aircraft carrier Bon Homme Richard on duty in Far Eastern waters. He received his medical degree from Tulane University, and master's in medical science at Ohio State.

Dr. Clarke has been a physician at Convair since spring of 1957, and is a licensed physician and surgeon in the state of Calif.

Fifteen Earn Graduate Degrees As Result of Study on Own Time

Fifteen Convair men so far this year reached a significant milepost along the path of their educational development by earning advanced degrees from colleges and universities in the San Diego area.

All worked full time for the division while attending graduate courses, for the most part at night. Most averaged from three to five years in acquiring master's degrees, including preparation of theses. However, Herbert Richmond, systems and procedures analyst, sped through in less than two years.

Some were forced to spread their studies over a longer period of time out of necessity. For instance, Charles W. Fenske, senior electronics engineer, said that he had worked toward his master's off and on since 1956, taking time away from school while he traveled for the company or to devote time to family affairs (including the birth of a couple of children).

He probably expressed the feelings of all when he said, "It's a real personal milestone and, frankly, I'm glad it's passed and done."

Most took their courses under the company tuition refund plan if they were taking job-related degrees. However, Frank D. Gilliam, flight test engineer, who switched to law, was one who paid his own expenses. He will take the state bar examination this month.

Receiving master's degrees from San Diego State College were: Frank R. Lucas (Dept. 845-1), business administration; Charles E. Burgi (Dept. 958-6), business administration; Franklin D. Postula (Dept. 584-2), mechanical engineering; William P. Shine (Dept. 513-1), business administration; Russell J. Hilsinger (Dept. 595-0), social sciences; Daniel C. Allen (Dept. 958-7), mathematics; Truman E. Darnaud (Dept. 967-5), electrical engineering; James L. McNaughton (Dept. 962-2), mechanical engineering; A. L. Gingerich (Dept. 961-8), mechanical engineering.

Cal Western University: Frank D. Gilliam (974-4), law (LLB); Roy T. Bailey (526-6), business administration; Paul Gelles (Dept. 143-3), business administration; Herbert B. Richmond (Dept. 170-2), business administration; Dominic DeCrescenzo (Dept. 522-9), business administration.

University of California Extension: Charles W. Fenske (Dept. 551-1), engineering.

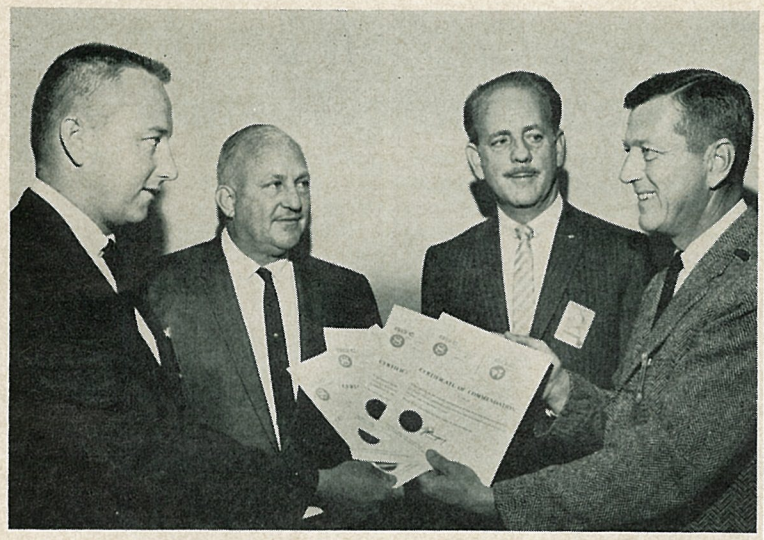
Seats Now on Sale For Charger Game

Good reserved seats to the Chargers' first home league game Sept. 11 are now on sale at Convair employe services outlets and CRA Clubhouse at reduced price.

GD fans can buy regular $3.50 tickets for $2.50 to watch the San Diego pro football team play the Denver Broncos.



GRADUATE AND FRIENDS — Dominic DeCrescenzo, one of 15 Convair men who attained advanced degrees this year, receives congratulations from cheering section (from left) John, 10; Karla, 5; Mary Kay, 11; Karen, 7; Anne, 3; and Donald, 9. Anne was born during the years her father was working toward his MBA at Cal Western.



COMMENDED — J. H. Wills (left), Dept. 193, receives four certificates of commendation for his suggestions to reduce costs. Erle G. Hill (right), Convair controller, makes award. R. G. Wilson, (left center), Dept. 196, and F. M. Wynkoop, Dept. 197, were also commended for cost reduction activities.

Controller Dept. Commendations Earned by Five Convair Idea Men

Five Convair employes in the controller's department have been awarded cost reduction commendations for savings which total more than $488,500. Eric G. Hill, controller, made the awards.

The largest single saving was $296,607, credited to F. M. Wynkoop, manager of subcontract auditing.

J. H. Wills, Dept. 193, received four commendation certificates for suggestions which totaled $98,635. Three of Wills' ideas will avoid printing 1,750,000 pages of reports and cost ledgers per year.

R. G. Wilson, Dept. 196, was congratulated for saving $30,737 in just three months while a member of the subcontract termination team.

C. N. Crocker, Dept. 191, received his commendation for changing a vendor identification code to eliminate clerical work.

J. J. Janda, Dept. 191, was commended for a saving of $3,400 which resulted from his suggestion that the preparation of certain schedules be changed.



CERTIFICATED — Convair data processing and management systems employes received certificates awarded by Data Processing Management Association. They scored highest in recent certification test.

Convair Men Score High in Test Of Data Processing Knowledge

The Data Processing Management Association has awarded certificates to 22 Convair employes. The awards came after a certification examination given throughout the U.S. and Canada last February. The association represents more than 6,000 members.

Dept. 101, data processing operations, employes honored were: A. E. Andress and G. R. Jacob. Dept. 170, division systems: R. E. August, A. Bataller Jr., G. E. Chute, E. R. Gould, E. J. Landauer, C. A. Leonard, N. C. Lonsdale, P. S. Murphy Jr., R. A. Newak, W. L. Park, H. A. Shepard, R. C. Small, T. Yano, M. J. Fritz, D. F. Jenkins, D. B. Harden, F. G. Pallan, V. A. Vella, D. B. Hartley, and E. A. Gingrich.

The 1965 test consisted of 225 questions in such categories as computer, unit record, and general systems concepts, accounting, mathematics, and statistics.

John H. Johnson, Convair manager of management systems, said, "These certificates, which attest the skill of the individual, encourage data processors to improve and widen their knowledge, and to keep up with the rapid advances."

Coins Will Reward Lucky at Gathering

Convair Coineers will have a chance to win valuable coins at tonight's (Aug. 18) meeting in the Convair cafeteria, Pacific Hwy., at 7:30 p.m.

Three $5 gold pieces and three 1965 Canadian proof-like sets will be up for grabs in the raffle, a 1962 U.S. proof set will be given for the door prize, and, in addition, a scarce 1964 Mexican 25 centavo coin will go to a lucky guest.

CRA Golf Tourney Slated at Bonita

Sign-ups begin tomorrow (Aug. 19) for CRA's monthly golf tourney in September at Bonita Valley Country Club. Starting times will be given until Aug. 31 through ext. 1111, Kearny Mesa.

The medal play links tourney will be Sept. 11 and 12, said Commissioner Ken Wulfemeyer, with golfers free to choose either day.

Pony World Series Set For Aug. 26-29

Tickets are still on sale at Convair employe services for the annual Pony League World Series Aug. 26-29 in National City.

Reduced prices are $6.50 for reserved seats for the series, $4.50 for general admission.

FAMILY SWIMMING NIGHTS CANCELLED

Free family swim nights have been discontinued for the rest of the season, Pete Beyrer of CRA reported. The Mission Beach Plunge will undergo its annual renovation. Swim nights will be resumed after the first of the year.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for next issue of GD/NEWS is before noon, Aug. 25.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Sign for winter leagues by calling CRA Headquarters, ext. 1111, Kearny Mesa.

BRIDGE—Weekly tournaments Fridays, 7:30 p.m., CRA Clubhouse. Master Point night first Friday.

CERAMICS — Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COINEERS — Meeting tonight (Aug. 18), 7:30 p.m., Convair cafeteria, Pacific Hwy.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING — Potluck and meeting tonight (Aug. 18) Pecan Park.

GARDEN CLUB — Meeting Sept. 1, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Entries open tomorrow (Aug. 19) until Aug. 31 for CRA tourney Sept. 11-12, Bonita Valley Country Club. Plant championships Aug. 22, 28-29, Cottonwood.

ICE SKATING — GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — Shoot 9:15 a.m., Aug. 22, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tonight (Aug. 18), 7:30 p.m., Harbor Drive club headquarters.

ROAD RUNNERS — Outing to Paradise Hide-Away Aug. 27-29. Call Ralph East, ext. 1141, Lindbergh Field.

TEEN CLUB—Dance Aug. 21, 8 p.m.-midnight, CRA Clubhouse.

TENNIS — CRA-Management Club tennis tourney, Aug. 21-22, 28-29, Mesa College Courts.

TOASTMISTRESSES — Serra Mesa Toastmistress Club meets first and third Mondays of each month, Hi-Fi Room, CRA Clubhouse, Kearny Mesa. Call president, Beth Underkofler, ext. 725, Kearny Mesa.

TRAVELERS—Outing at Pine Crest Aug. 21-22. Call Virg Marshall, ext. 3541, Kearny Mesa.

WIVES — Luncheon and sewing contest today (Aug. 18) at Bali Hai. Potluck and baking contest Aug. 25, CRA Clubhouse.

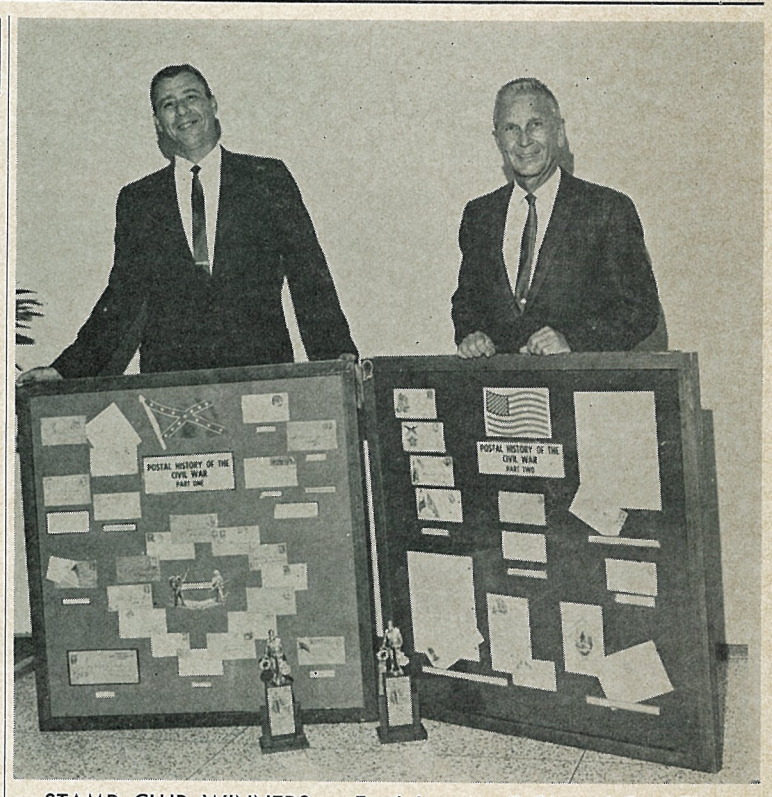
Splinter Wins 'Best in Show'

C. H. Splinter of Dept. 759 won the special CRA trophy for "best bloom in show" at Convair Garden Club's annual Dahlia Show Aug. 1, and Marge Hornby (Dept. 974) will have her name engraved on the Ona Mae Carroll Award for the best arrangement.

Over 400 entries were exhibited in Balboa Park's Floral Association Bldg., Co-commissioners Everett Henderson and Gene Zimmerman reported. CRA exhibitors displayed 286 dahlia entries; 52, fruit and vegetables; 37 arrangements; 19 corsages; and 11 children's entries.

Other "best" awards went to Mr. and Mrs. Clayton Finley, LaVonne Splinter, Mr. and Mrs. Al Hornby, Henry Boyd, Margaret Boyd, Arnold Carroll, Carolyn Buman, Ray Sharman, J. R. Buman. Janice Zimmerman won best child's entry.

CRA dahlia growers walked off with 21 top awards and at least 50 blue ribbons in the San Diego County Dahlia Show Aug. 7-8. Mr. and Mrs. C. H. Splinter and Mr. and Mrs. Al Hornby won sweepstakes.



STAMP CLUB WINNERS — Fred Lawson (left) and Don Thompson show entries that won trophies at San Diego County Fair. Exhibit "Postal History of the Civil War," is Thompson's. Valued at $2,000, it includes $500 cover with four Louisiana Provisionals. Thompson, a member of the Confederate Stamp Alliance and a collector for 20 years, owns about $20,000 in rare stamps and coins. Lawson won awards in both foreign and miscellaneous categories and in air mail category, all-Israel issues.

Bowling Organization Meetings Begin Next Week For Fall Action

Organization meetings will be held next week at local bowling alleys for Convair winter leagues being formed for the coming season which will get into action the week of Sept. 13.

Monday, Aug. 23, 7 p.m. — Clairemont Bowl and Parkway Bowl, Management Club 800 Scratch.

Tuesday, Aug. 24, 7 p.m. — Parkway Bowl, Management Club Mixed League.

Tuesday, Aug. 24, 7 p.m. — Parkway Bowl and Clairemont Bowl, CRA Mixed Leagues.

Wednesday, Aug. 25, 7 p.m. — La Mesa Bowl, CRA and AFPR Mixed League.

Thursday, Aug. 26, 7 p.m. — Frontier Lanes, GD/E Mixed League and GD/C Scouts League; Victory Lanes and Lomita Bowl, CRA Mixed Leagues.

Friday, Aug. 27, 7 p.m.—Pacific Rec, CRA Scratch; Clairemont Bowl, CRA Mixed League.

A CRA swing-shift mixed league will be organized by Sandy Curtis to bowl Saturday mornings, 1:30 a.m., at Clairemont Bowl and a Wives League will be formed to bowl Tuesdays at 9:30 a.m. at Clairemont. Call Ann Ragusa, 453-0757, for information.

Co-commissioners Forrest Erwin, ext. 2884, Kearny Mesa, or home phone 444-0042; Mike Brooks, home phone 469-8793; or Jim Hayman, 466-1262, may be contacted for details.

Cosmo Bums, With 8-1 Record, Take First Half of Fast Pitch

Cosmo Bums swept the first half of Convair's fast pitch softball shop league with 8 wins, 1 loss after July 31 games.

The other teams wound up: R & D Electronics, 6-2; 101, 6-3; Service parts, 5-4; Embezzlers, 4½-4½; Tecnics, 4-5; Q. C. Colts, 3½-5½; Spoilers, 2½-5½; Underbrush, 2½-6½; Centaur, 2-7.

* * *

Hi-Lows led the slow-pitch softball American League and GD/E Purchasing was in front of National League teams after nine games of play in the CRA tourney.

Pre-War Personnel lagged a game behind Hi-Lows who had won 7 and dropped 2. Stromberg-Carlson was in third with 5 wins, 3 losses. Next were Floxers, 4-5; Controllers, 2-6; and Noise Boys, 0-6.

In the National League, GD/E Purchasing had won 8½ and lost ½ game; GD/E Operations, 5½-1½; Convair Material, 4½-3½; Test Lab, 3-6; Gasp, 2½-6½; C.S.T.S. 79ers, 1-7.

The season winds up the second week in September. League winners will play a best two-of-three-game series for the plant championship.

Discounts Arranged On First-Run Films

Two first-run movies, "Hallelujah Trail" and "Those Magnificent Men in Their Flying Machines," can be seen by General Dynamics people at 20 per cent off regular prices through CRA arrangements.

Tickets are on sale at Convair employe services at Kearny Mesa and Lindbergh Field plants and CRA Clubhouse, Kearny Mesa, to the Aug. 26 showing of "Hallelujah Trail" at Center Theatre in Mission Valley. Reduced price is $1.80 for $2.25 seats. Tickets must be purchased before noon Aug. 24.

Sept. 9 is discount night to "Those Magnificent Men and Their Flying Machines" at Grossmont Cinema, Hwy. 80 at Jackson. Prices are $2 for $2.50 seats and $1.60 for $2 seats. Deadline for buying tickets is Sept. 3.

S-C Families Picnic At Kearny Facility

Over 400 dads, moms, and youngsters of Stromberg-Carlson families filled the Convair Recreation Area at Kearny Mesa for their annual family picnic late last month, July 31.

Carl V. Shannon, general manager of the San Diego Data Products operation, welcomed families to the Saturday affair and Dick Barnett acted as master of ceremonies.

A softball game between mixed teams, made up of men and women players, provided fun for spectators. Children made good use of the Missile Park's miniature railroad train and merry-go-round. Games, raffles, contests, bingo, and a professional puppet show jampacked the afternoon.

Arrangements committee was headed by George Oatman, who was assisted by Ken Crowson, Shirley Reeves, Maxine Campbell, Dan Fleischhauer, and Bob Warner.

Seminar Conducted For Outside Company

A value engineering seminar and workshop was conducted last month by Convair training specialists especially for Kearfott San Marcos Division of General Precision, Inc., as the first specific request by an outside company for presentation of the division's complete two-week program.

Twenty Kearfott Division men from engineering, manufacturing, and purchasing heard E. D. Heller, Convair manager of cost reduction and value control, outline basic philosophy and principles of the cost vs. value program at the opening session July 12. Daily workshops continued until July 23 at Quail's Inn, Lake San Marcos, with Everett Lindem of Convair educational services coordinating.

A possible savings of over $1 million was reported at conclusion of the seminar by the combined results of teams evaluating Kearfott products. Vern Burns, Kearfott's manager of purchasing and formerly with Convair, and George R. Strauch, manager of design engineering, acted as project leaders.

Turner and Johnson At Apprentice Meet

Wayne Turner and Richard Johnson represented Convair division at the quarterly meeting of the California Apprenticeship Council in Long Beach July 28-31.

Turner, chairman of the Lindbergh Field plant apprenticeship committee, also was present at the meeting of the Planning Committee for next bi-annual California Conference on Apprenticeship which is scheduled for April, 1966, in Los Angeles. Johnson is a member of the apprenticeship committee at Kearny Mesa plant.

PLANTS WILL CLOSE FOR LABOR DAY

Labor Day will make a three-day weekend for General Dynamics people. All plants will close Sept. 6, except for necessary functions.





FAR AFIELD — Gathering in top photo (at Red River Army Depot, Texarkana, Texas) is typical of audiences that have heard about Convair's "Do Good Work" program. Below are Wes Magnuson, right, and Verne Heger of Convair who explained Zero Defects-type approach to more than 13,000 in June and July alone.

Convair's "Do Good Work" Story Told Thousands Coast-to-Coast

More that 13,000 persons heard in person, and thousands more learned from radio and television during the months of June and July the complete story of GD/Convair's "Do Good Work" program pioneered more than a year and a half ago to challenge every individual to the utmost of his performance in his daily work.

Convair representatives were invited to explain the division's methods of using objective evidence to measure the results of the drive toward perfection to audiences in Illinois, Utah, New York, New Jersey, California, Washington, and Texas.

These presentations by Wes Magnuson, chief of special projects in reliability control, and Verne Heger, a specialist in in-plant communication, are given both to other General Dynamics divisions and to customer and industry groups to acquaint them with value and success of the program as it is operated at Convair.

A listing of the recent presentations, and the audiences which heard them, tells something of the nation-wide interest in "Do Good Work":

June 2, Bellville, Ill.—60 senior officers of the Military Air Transportation Service at Scott Air Force Base.

June 4, Tooele, Utah — 5,000 persons attending the kickoff of Tooele Army Depot's zero defects program.

June 7, New York City — 20 General Dynamics senior value control executives.

June 8, Avenel, N.J. — 45 Electro Dynamic executives.

June 8, Teterboro, N.J. — 30 executives of Bendix Division of Eclipse Pioneer Corp.

June 9, Rochester, N.Y. — 40 executives of Electronics division and Stromberg Carlson Corp.

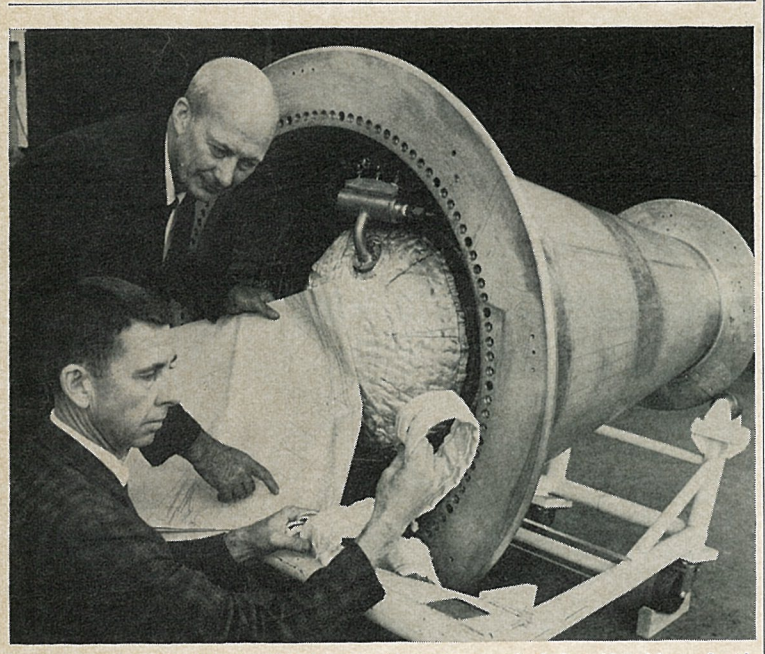
June 23, Stockton, Calif.—2,000 persons at kickoff of Sharp Army Depot zero defects program.

July 9, Seattle, Wash. — 300 members of management group of Boeing's Aerospace Division.

July 12, Tacoma, Wash.—1,800 at kickoff ceremonies of zero defects program at McChord AFB.

July 14, Texarkana, Texas — 4,000 at kickoff of zero defects program at the Army Red River Arsenal. These ceremonies were televised for viewers in seven states.

The spirit of "Do Good Work" was expressed by Magnuson in his talk at Tooele when he said, "It is an attitude; I think it is a crusade. It is a desire on the part of every person to do right, the first time, whatever we do!"



OFF TO LANGLEY—Walter Bailey Jr. and John Hopkins, both Convair Dept. 403-2, inspect hypersonic research vehicle built by GD/Convair for NASA's Langley Research Center. Vehicle will undergo wind tunnel tests at speeds up to Mach 8.

Research Model Will Test New Concept Of 'Frosting' to Combat Mach 8 Heat

A hypersonic research model, representing a fuselage section of a hydrogen-fueled vehicle which would travel at speeds up to Mach 8, has been completed by Convair and delivered to NASA's Langley Research Center, Hampton, Va.

The $180,000 model will be used to test a new system developed by the Center to withstand the extreme environment of hypersonic flight.

The project, managed by Convair production engineering, was under the overall responsibility of G. A. Grossaint, chief of project development and control. Walter Bailey Jr. was program manager, and J. C. Hopkins was project leader. Both are in Dept. 403-20.

The model has a fusion-welded outer structure of a nickel alloy called René 41. The inner liquid hydrogen tank is made from fusion-welded aluminum panels. The tank, which is suspended within the outer structure, is covered with ½-inch thick insulation blankets of high temperature quartz materials. The skin temperatures of the outer structure is designed to withstand 1,400°F., while inside the liquid hydrogen tank, only 3½ inches from the outer skin, the temperature is –423°F. The concept includes saturating the insulation blanket with carbon dioxide frost before flight. When the frost melts, it prevents the liquid hydrogen from boiling off during aerodynamic heating.

If application of this insulating concept works as hoped, it will be a significant advance toward solving one of the major problems of hypersonic vehicles.

The parts fabrication, subassembly, and leak-testing were done at the Kearny Mesa plant. Welding and final assembly were at Air Force Plant 19.

Convair Chosen by NASA To Coordinate Testing

GD/Convair will develop specifications and a training program for NASA certification of nondestructive testing personnel assigned to manned and unmanned space programs under a contract from NASA's Marshall Space Flight Center, Huntsville, Ala.

During the next nine months Convair quality assurance and training specialists will establish uniform nondestructive testing requirements which will be used by all NASA suppliers and contractors to meet more and more critical quality and reliability demands of space systems and their supporting equipment.

Testing procedures now in use within industry and at NASA installations will be reviewed and evaluated to incorporate the most effective methods into the final specifications, said K. M. Boekamp, reliability control project manager. In fact, all companies supplying NASA have been invited to submit their individual techniques and requirements, as well as suggestions for upgrading nondestructive testing methods.

In addition, Convair will prepare programmed instruction manuals, classroom manuals, lesson plans, and training aids for use in NASA's formal training program to start early next year.

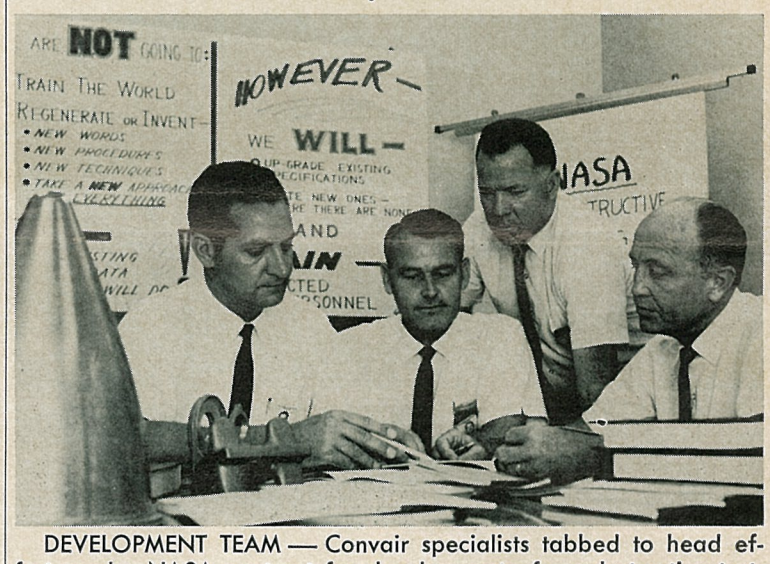
The series of programmed instruction manuals, using the progressive step-by-step teaching technique for self-study, will be a prerequisite for those taking certification courses so that every participant will enter the training with a common level of knowledge.

Manuals will cover the five basic nondestructive testing processes: liquid penetrant, magnetic particle, eddy current, ultrasonic, radiography. Material already prepared for nondestructive testing manuals, pioneered by Convair under a Corporation-funded study, will be modified and updated for adaptation to current NASA requirements.

"A uniform approach will fill a long-felt need, not only by NASA but by all industry," said Boekamp. "The rapidly expanding cost of space hardware dictates the growing need of reliability and quality control. We must be able to determine this quality and reliability by nondestructive methods and be certain that all subcontractors on any particular program are using the same level of qualification."

NASA-approved specifications will be issued all NASA suppliers and contractors and the Convair prepared manuals will be furnished key inspection and training personnel selected to attend NASA classes. All training data prepared under the contract will be available to the general public through the Government Printing Office, Washington, D.C.

Overall responsibility for the contract will lie with quality assurance section of Convair's reliability control organization under P. I. Harr, director. R. H. Gilliland is manager of quality assurance.



DEVELOPMENT TEAM — Convair specialists tabbed to head efforts under NASA contract for development of nondestructive testing specifications and training are, from left: Konrad Boekamp, project manager; Griff Williams, responsible for programmed instruction manuals; Gene Boyd, in charge of specifications; Neil Kane, classroom material.

Electronics Will Build Advanced Receiver For Picking up Space Weather Signals

Electronics division at Rochester has announced receipt of three contracts totaling $636,000 from the Goddard Space Flight Center of the National Aeronautics and Space Administration.

Some of the equipment called for is of an advanced type of diversity tracking receiver primarily intended for use with the TIROS operational weather observation satellite. The equipment will permit radio signals received simultaneously by two large antennas to be combined coherently and will also measure the effects of various atmospheric conditions.

Other equipment will permit the reception of telemetry signals from various space vehicles.



AMIABLE CHAT — The subject was "F-111" when Air Marshal Sir Christopher Hartley, United Kingdom's Deputy Chief of Air staff, Royal Air Force — along with other British government representatives — met with J. T. Cosby, GD/Fort Worth vice president-F-111 program director.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 18 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, September 1, 1965

Record High Quality Index Set at Plant 19

The Craftsmanship phase of Convair's Do Good Work program marked another first during July —the highest quality index ever scored by an on-site department.

Dept. 715, machine shop, metal processing and assembly, at Air Force Plant 19, submitted 853 parts to inspection with only seven rejections. This resulted in a quality index of 124.

Clyde Medearis, general foreman, support operations, accepted the Do Good Work plaque from Convair President James R. Dempsey on behalf of the 60 craftsmen.

Second-place winner in the Kearny Mesa-Plant 19 competition was Dept. 761 with a quality index of 110.6. Dept. 759 took third place with an index of 106.9.

At Lindbergh Field Plant Dept. 031 won with a quality index of 113.5.

In presenting Foreman Clarence Strand of Dept. 031 the second gold seal in two months, Dempsey drew attention to the outstanding improvement of the Lindbergh Field plant department. It had progressively decreased the number of defects marked against it from 272 last March to 50 in July. The July record bettered the winning June total by 23.

"You averaged only .25 defects per 100 manhours, or one defect for every 400 hours during the month," explained Dempsey. "Congratulations to everyone in the department for an outstanding job. And, I hope I'll be back next month for the third time."

Craftsmanship certificates will be mailed to each of the 158 employes who helped Dept. 031 retain the Craftsmanship Award banner for another month.

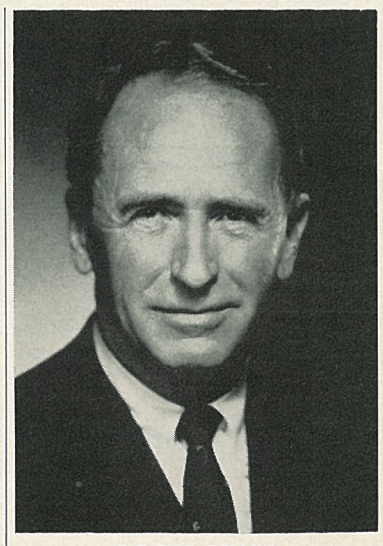
Winning department at VAFB was Dept. 576-33, support operations. This was the second consecutive month that the group, led by W. L. Johnson, took quality index honors. The June index was 116.5; the July figure was 123.7—a bare three-tenths of one per cent from the highest quality index for the month at any plant or base.

Second place winner at VAFB was PALC II with a quality index of 107.5; third place was

(Continued on Page 2)



WINNERS ALL — In top photo, Clarence Strand, Convair Dept. 013 foreman at Lindbergh Field plant, accepts gold seal from President James R. Dempsey for second time in a row in Good Workmanship competition. Experimental bettered its June record to raise quality index to 113.5 in July. Center photo: Dept. 715 at AF Plant 19 took July award with highest index ever recorded on-site—124. Clyde Medearis, general foreman support operations, accepts Dempsey's congratulations. Lower photo: Maintenance section of operations support, Dept. 576-3, at Vandenberg AFB won July award, repeating June victory. C. A. Johnston, chief engineer, presents award to J. W. Wilson, assistant foreman. W. L. Johnson is foreman, E. A. Millar is function head.



ROGER LEWIS

Roger Lewis Heralds Savings, Stock Plan

(The following letter, signed by Roger Lewis, president of General Dynamics, is a preface to the Savings and Investment Plan booklet.)

Good employes properly placed, trained and effectively supervised are General Dynamics' fastest growing asset. To attract, motivate and keep good employes, General Dynamics is constantly striving to improve its benefit programs as another means of compensation for employes who are able and willing to provide superior performance.

The General Dynamics Savings and Stock Investment Plan is designed to offer you an opportunity to participate in a program in which the Company adds fifty cents to every dollar you save. Such savings can help you provide protection for you and your family against unforeseen financial emergencies or be set aside for your retirement.

Your participation is entirely voluntary and a matter for personal decision.

Roger Lewis

First 600/440D Flies, Logs 90 Min. Air Time

Convair's first 600/440D made its maiden flight Aug. 20 from Lindbergh Field. It lifted off at 2:30 p.m. (PDT) for a smooth one-and-a-half hour flight off the Southern California coast with Chief Test Pilot John Knebel at the controls.

The 600/440D prototype combines British Rolls-Royce Dart turboprop engines with Convair 340 and 440 airframes. The second prototype in the 600 conversion program joins the 600/240 prototype in flight testing leading to Federal Aviation Agency certification. The 600/240D, a match of Dart engines and 240 airframe, has logged more than 100 flying hours since its first flight May 20.

Fifty-one Convair 600s are now on order. Trans-Texas Airways has ordered 25 of the 240D version and Central Airlines has ordered 10. Caribair has ordered 9 of the 440D version and Hawaiian Airlines has ordered 7.

Customers for the 600 have the option of ordering conversion kits from Convair and doing the modification themselves, or having it done by the airframe manufacturer.

Among the present 600 customers, Trans-Texas will accomplish the conversions at its maintenance facility in Houston, Texas. The other three carriers will have their conversions made by Convair.

The first kits will be delivered to Trans-Texas this month and the first completed 600 was to be delivered to Central Airlines this week upon receipt of an FAA provisional airworthiness certificate. The airline will use the airplane for pilot training and route proving until final FAA certification is obtained.

In addition to the new Dart engines, the conversion involves the installation of two Rotol 13-ft. propellers, new gearboxes, nacelles, combustion heater, cabin compressor, and related cockpit instruments.

The airplane can be made completely self-sufficient by the addition of a Convair-sponsored auxiliary power unit installation for ground electrical power, air conditioning and engine starting.

SLV Program In New Lineup

Organizational changes affecting Convair's Space Launch Vehicles program were announced late last month.

C. S. Ames, vice president and program director of SLV, said: "Our objective is to do everything possible to assure 100 per cent reliability of our product."

Under the new organization, five assistant program directors will report to Ames. They are: J. S. Berggren, SLV-3 program office; L. E. Munson, SLV-3X program office; R. W. Keehn, LV-3C program office; C. J. Dunn, Series D, E, and F program

(Continued on Page 2)

Savings, Stock Plan Outlined; To Begin Oct. 1

A voluntary Savings and Stock Investment Plan, in which General Dynamics will make a substantial financial contribution, will become available Oct. 1, 1965, to salaried employes not represented by a union, of at least one year continuous service.

Eligible employes may contribute up to 10 per cent of their base salaries by payroll deduction. General Dynamics will add 50 cents to every $1 the employe saves.

The employe has four choices as to how his savings, as well as the contributions of General Dynamics, will be invested:

(1) One-third in Government Bonds; one-third in a "diversified portfolio" of stocks of companies other than General Dynamics; one-third in General Dynamics common stock.

(2) One-third in Government Bonds; two-thirds in General Dynamics common stock.

(3) One-third in Government Bonds; two-thirds in the "diversified portfolio."

(4) 100 per cent in Government Bonds.

(A "diversified portfolio" means a collection of shares of stocks in a variety of different companies selected by experienced, professional, investment managers.)

A letter from Roger Lewis, General Dynamics president, announcing the Plan, went to eligible employes last month. Booklets containing details of the Plan and copies of a General Dynamics Prospectus will be available soon. Meetings will be scheduled to further explain the Plan. Enrollment cards will be available at the meetings and later at industrial relations and personnel offices.

Participation in the Plan is entirely voluntary. The Plan's purpose is to make available to eligible employes a systematic savings and investment program that, if they so desire, includes General Dynamics stock, and in which the Company will contribute to the employe's own savings.

Through payroll deduction, members may save 2 per cent, 4 per cent, 6 per cent, 8 per cent or 10 per cent, as they choose. The maximum any individual can put into the Plan, however, is $2,500 a year.

The Plan was approved by the General Dynamics Board of Directors last month and registered with the Securities and Exchange Commission. It will be supervised by a Savings Plan Committee appointed by the Board of Directors.

Actual administration of funds, however, will be the responsibility of the Bankers Trust Company of New York City, designated by General Dynamics as Trustee for the Plan. The Trustee will purchase the required amounts of Government Bonds and General Dynamics stock and will manage the "diversified portfolio," according to the best judgment of its investment counselors.

Individual accounts will be kept for each member and reports issued annually as to the status of individual holdings.

The Plan is geared to meet long term requirements and also provide flexibility over shorter periods, including the opportunity for an employe to withdraw periodically part of his holdings and part of the Company's contributions in his behalf, without penalty.

The employe also can withdraw part of his holdings at any other time, with certain limitations, or

(Continued on Page 3)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due during the period Sept. 1 through Sept. 15.

Twenty-five-year: Dept. 015-0, H. A. Wilson; Dept. 031-0, J. H. Allen, R. M. Cox, J. F. Kresser Jr., J. H. McCoy, L. B. Reeder, F. A. Riddle; Dept. 041-0, I. R. Endicott, A. J. Nicholas, I. L. Quillin; Dept. 071-0, Dennis St. Anna; Dept. 140-0, W. E. Magnuson; Dept. 149-2, J. W. Tolpo; Dept. 400-1, R. E. Barrett; Dept. 401-4, J. R. Harris; Dept. 420-1, E. L. Johnson.

Dept. 511-1, Armando Valencia; Dept. 522-6, John W. McClain; Dept. 572-1, W. M. Sutherland; Dept. 578-4, M. C. Brady; Dept. 759-0, K. M. Stewart; Dept. 761-0, W. D. Parker Jr.; Dept. 832-1, C. C. Maupin; Dept. 835-1, C. T. Ufen; Dept. 961-2, J. E. Hughes; Dept. 970-0, S. J. Barinka.

Twenty-year: Dept. 149-2, W. L. Koivisto; Dept. 531-2, H. B. Riggs; Dept. 759-0, R. E. Millsap.

Fifteen-year: Dept. 015-0, Sarah D. Willette; Dept. 031-0, E. G. Fedderson; Dept. 113-0, Juanita P. Russell; Dept. 170-2, G. B. Du Rall, R. E. Harmon; Dept. 194-0, L. J. Adams, J. R. Martinez; Dept. 223-0, Pearl Coven; Dept. 225-0, J. H. Ladd; Dept. 226-0, W. W. Baker Jr.; Dept. 250, R. E. Haltmeier, A. A. Phillips, R. G. Smith; Dept. 400-1, R. B. Chambers; Dept. 401-7, M. A. Julio.

Dept. 511-1, G. H. Moen; Dept. 512-2, R. A. Close; Dept. 522-6, G. J. Schroeder; Dept. 523-7, P. D. Neiswender; Dept. 543-1, E. D. Woodyard; Dept. 553-2, Anthony Minniti; Dept. 576-4, C. W. Taylor; Dept. 585-1, Ole Schey; Dept. 596-0, G. W. Carmichael; Dept. 758-0, E. W. McPherson; Dept. 763-0, E. V. Smith; Dept. 847-4, J. H. Harper; Dept. 957-0, W. G. Bleecker; Dept. 970-0, G. B. Branch.

Ten-year: Dept. 110-1, D. R. Stewart; Dept. 142, V. L. Brierley, R. M. Carlson; Dept. 143-6, F. E. Gahan; Dept. 145-1, C. H. Lloyd; Dept. 170-9, Pauline M. Conrad; Dept. 193-3, J. G. Simmons; Dept. 250-1, N. J. Booher Jr.; Dept. 454-0, H. T. Woods; Dept. 507-0, E. K. Yager; Dept. 511-1, R. C. Savary; Dept. 541-0, Americo Biasini; Dept. 543-2, R. D. Gilfillan; Dept. 545-3, W. A. Wagner; Dept. 552-1, J. E. Franc; Dept. 571-1, T. L. Bartlett; Dept. 574-1, J. W. Weaver; Dept. 576-4, Michael Moll; Dept. 578-4, P. L. Thornton.

Dept. 642-1, J. M. Lindsay; Dept. 644-1, J. P. Nichols; Dept. 684-0, J. M. Mac Donald; Dept. 687-2, E. R. Dershem; Dept. 694-0, C. R. Harter; Dept. 756-0, F. L. Perkins; Dept. 780, F. W. Cropper, Margaret K. Day, A. T. Ramberg, M. G. William; Dept. 833-2, Helen L. Lowe; Dept. 963-1, J. A. Hughes; Dept. 967-4, C. P. Norwood; Dept. 976-0, H. M. Brown Jr.; Dept. 978-1, C. R. Snelling; Dept. 999-0, T. W. Freeman.

STROMBERG-CARLSON

Ten-year: Dept. 8750, K. E. Sellers.

Papers Presented

CONVAIR

AQUILERA—E. P., Dept. 532-1. "One, Two, Four—Three or Five?" SAE/NASA Conference on Design and Leak Tight Fluid Connectors, Huntsville, Ala., Aug. 4-5.

LOWEN—R. W., Dept. 596-0. "Some New Methods for Space Shielding Calculations," Advanced Study Institute, Bergen, Norway, Aug. 16-Sept. 3.

MARINO—L. L., Dept. 596-0. "Charge Transfer Between Cesium Atoms and Potassium Ions," IVth International Conference on the Physics of Electronic & Atomic Collisions, Quebec, Canada, Aug. 2-6.

SOWLE—D. H., Dept. 596-0. "Calculation of Average Radiation Fluxes on Satellites," Advanced Study Institute, Bergen, Norway, Aug. 16-Sept. 3.

* * *

Papers presented at the Cryogenic Engineering Conference, Houston, Texas, Aug. 23-25:

CHRISTIAN—J. L., J. D. COX, W. G. SCHECK, Dept. 572-1, "Mechanical Properties of Electroformed Nickel at Room and Cryogenic Temperatures."

GETTY—R. C., Dept. 594-2. "Experimental Evaluation of Some Selected Lightweight Superinsulation for Space Vehicles."

LEONHARD—K. E., Dept. 584-2. "Development of Superinsulation for Upper Stage Vehicles."

Invention Disclosures

CONVAIR

DORE—F. J. JR. and L. E. SIDEN, Dept. 581-2. Simplified Reaction Control System for Manned Rocket Non-Powered Flight.

NELSON—M. and P. M. SCHROEDER JR., Dept. 581-0. Design for Propellant Tank Aerodynamic Heating Using Uninsulated High Temperature Materials.

SCHROEDER—P. M. JR., Dept. 581-0. Retractable Landing Gear Design for a Reusable Rocket.

SIDEN—L. E., Dept. 581-2. Turbojet Engine AFT Support Mount and Internal Mounted Thrust Structure for Segmented Rocket Propellant Tanks.

Births

CONVAIR

LOGAN — Son, Kenneth, 7 lbs., 4¼ oz., born Aug. 9 to Mr. and Mrs. John R. Logan, Dept. 595-0.

OTTO—Son, Eric Christopher, 7 lbs., 13½ oz., born Aug. 24 to Mr. and Mrs. Dan Otto, Dept. 125-0.

WALLACH — Daughter, Rieka, 6 lbs., 7 oz., born June 12 to Mr. and Mrs. Bart S. Wallach, Dept. 958-7.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Awards

CONVAIR

Employe Suggestion awards approved for the reporting period ending Aug. 11.

Dept. 101, M. Chakarun; Dept. 119, C. H. Fenstermacher, R. W. Ralmage and P. A. Piraino (Dept. 128) (joint award); Dept. 123, J. A. Benavidez and R. J. Robinson (joint award); Dept. 140, D. F. Schweitzer; Dept. 141, J. Caldwell, F. J. Hammack, G. A. Hasti; Dept. 143, M. J. Russell; Dept. 170, J. C. Higdon; Dept. 191, V. R. Pieters II, three awards, E. V. Torp; Dept. 250, L. F. Ciardi, A. C. Mitchum, L. J. Renz and B. A. Rusk (joint award); Dept. 401, R. W. Verdon.

Dept 410, D. G. Tessereau, two awards; Dept. 420, T. H. McManus; Dept. 422, G. B. Quinsler; Dept. 644, J. R. Kintzer, B. B. Woffinden; Dept. 733, R. E. Reeves, H. Staten Jr.; Dept. 759, C. J. Eskew; Dept. 763, E. L. Carnes and L. W. Howerton (joint award), L. L. Ripley; Dept. 814, R. L. Davis; Dept. 824, L. L. Bender; Dept. 831, E. J. Fagan; Dept 953, J. W. Kieff; Dept. 958, D. C. Bain; Dept. 970, N. E. Moyer, R. M. Nicholas; Dept. 989, R. Rios.

Cost Improvement Proposal for the same period.

Dept. 015, F. Pagliuso.

In-Plant Training

ORIENTATION

NEW EMPLOYES — Education services staff, ext. 1931, Kearny Mesa. Two hours, Tuesday, Sept. 7, 8-10 a.m., Room 6, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, Tuesday, Sept. 7, 7 a.m., Dept. 300 personnel, Bldg. 14 auditorium. Tuesday, Sept. 28, first shift, 8 a.m.; second shift, 4:30 p.m., Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP —Everett Lindem, ext. 1931, Kearny Mesa. 40 hrs. Sept. 13-24, 8 a.m. to noon. CRA building. Enrollment closed.

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 4:30-5:30 p.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bldg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS — H. C. Neel, 16 hours; Tuesday thru Friday, 1:30 - 3:30 p.m., for 8 weeks; Room 6, Bldg. 14, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field.

DRAFTING (UNDIMENSIONED DRAWING) — S. W. Mopps, E. A. Zivolich, W. J. Wood, 80 hours; daily 1 - 4:30 p.m.; Bldg. 5 Loft, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field plant.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECK-OUT — Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours; Monday through Thursday, 3:15 - 5:15 p.m. Sept. 13 to Oct. 31. Four weeks on Fortran. Bldg. 17, Kearny Mesa.

ENGINEERING FORTRAN (BASIC)—Marvin Bauman. 34 hours; 7-8 a.m.; Monday through Thursday; July 26 - Sept. 22. SLV Conference Room 3, Bldg. 33, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

AFTER HOURS TRAINING IN-PLANT

CITY COLLEGE COURSES—Starting Sept. 13. For information, course descriptions contact Dick Forrest, ext. 1931, Kearny Mesa, or Wayne Turner, ext. 491, Lindbergh Field.

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I)—Dennis Suchecki, ext. 1931, Kearny Mesa. 65 hours; Tuesdays, 5:30-8 p.m.; Sept. 14-April 5, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For advanced registration, call Martha, ext. 1931, Kearny Mesa.

CRYOGENIC ENGINEERING — Karl Leonhard, ext. 4583, Kearny Mesa, 48 hours; Tuesdays, 5-8 p.m., Sept. 14-Dec. 28. Room 7, Bldg. 17, Kearny Mesa. Prerequisites: minimum of 3 yrs. toward BS degree, or 5 yrs. applied engineering experience.

ENGINEERING FORTRAN IV (Besic)—James Dobrei, IBM. 32 hours; 5-7 p.m.; Tuesdays and Thursdays; July 27-Sept. 21. Room 2, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

Retirements

CONVAIR

FINCHER—Carl A., Dept. 833-3. Seniority date April 2, 1957, retired Feb. 10.

GILARDO—John A., Dept. 143-4. Seniority date Aug. 4, 1958, retired May 9.

GRIFFIN—Bruce M., Dept. 959-1. Seniority date June 16, 1959, retired June 27.

HARTSHORN—Alfred M., Dept. 763-0. Seniority date June 21, 1956, retired July 30.

HUTCHISON—Heber W., Dept. 142-4. Seniority date June 15, 1950, retired July 30.

MASON—Karl E., Dept. 101-4. Seniority date Feb. 22, 1956, retired July 10.

MELLRING—Wallace B., Dept. 400-5. Seniority date Nov. 21, 1951, retired June 6.

MUNCHWEILER—Alex L., Dept. 336-1. Seniority date Aug. 17, 1956, retired July 31.

PERKINS—Weldon D., Dept. 324-7. Seniority date Sept. 29, 1958, retired July 8.

SHIELDS—Robert O., Dept. 812. Seniority date Oct. 10, 1956, retired July 19.

SLEEPER—Elizabeth M., Dept. 836-1. Seniority date Sept. 6, 1956, retired Jan. 25.

STEPHEN—John R., Dept. 452-0. Seniority date July 23, 1958, retired Feb. 11.

THOMSON—John E., Dept. 3-1. Seniority date Aug. 13, 1947, retired July 30.

WALKER—Clarence, Dept. 978-3. Seniority date April 9, 1952, retired July 30.

Personals

CONVAIR

We thank Convair friends for the kindness and sympathy at a time when it was deeply appreciated.

The family of Roy E. Danielson.

* * *

Your sympathy and kindly thoughts at the death of our husband and father, Frank Tyrrell (Dept. 220-2), will always be held in grateful remembrance.

Gloria Tyrrell
Jim Tyrrell



CITATION — W. J. Stanley, Convair manager of plant engineering, has been named "Mr. Industry" by Industrial Maintenance and Plant Operation magazine.

W. J. Stanley 'Mr. Industry'

W. J. Stanley, Convair manager of plant engineering, was recently named "Mr. Industry" by the magazine Industrial Maintenance and Plant Operation.

In its citation, the magazine said that in Stanley's 10 years at Convair, he has been responsible for subcontracting $328 million worth of facilities.

Stanley received his industrial engineering degree at the General Motors Institute and took courses at Michigan State University, UCLA, and California Western University. He is a past president of San Diego Chapter 65, and vice president of Region VI of the American Institute of Plant Engineers, and a member of the California Society of Professional Engineers.

Stanley devotes much of his own time to civic affairs. He was recently appointed by San Diego's mayor to the Urban Renewal Commission, and he is president of the Boys and Girls Aid Society.

Stanley came to Convair from Fisher Body Co. in Lansing, Mich., where he was in plant engineering and process engineering for 15 years.

Record High Index Set

(Continued from Page 1)

taken by Dept. 576-35 with a quality index of 101.8.

Complex 14 was the winning group at Cape Kennedy with a quality index of 111.1. This was the second consecutive month that this ETR group had won and, along with their win in December, 1964, adds two gold stars to their craftsmanship plaque.

Second place winner at ETR was Complex 36-A with a quality index of 104.8. Complex 12 and Complex 13 tied for third place with 101.2.

Travel Reservation Centers Consolidated

Travel reservation center at Lindbergh Field plant has been merged with the reservation center at Plant 19. It is located in Bldg. 3 at Col. C-3.

All airline reservations will be made through the travel reservation center, ext. 1426, Lindbergh Field switchboard. Present hours of 8 a.m. to 4:45 p.m. will continue.

Each traveler is responsible for picking up his own ticket from the respective airline ticket office at the Lindbergh Field airport at least 30 minutes before flight time.

Deaths

CONVAIR

ALLISON — Carl W., Dept. 526-8, died suddenly Aug. 14. Survived by wife, Vivian, two daughters, mother, brother, four sisters.

PEART — Frederick B., Dept. 978-3. Died suddenly Aug. 10. Survived by wife, Gloria, daughter, Janet.

Harold Jensen Named Fellow Of Weight Engineers Society

Harold L. Jensen Jr., senior design engineer in Convair Dept. 989-2, has been designated as Honorary Fellow of the Society of Aeronautical Weight Engineers.

The letter of presentation called attention to Jensen's assignment to the Centaur ground instrumentation group and stated that he has "promoted the recognition of weight control as a specialized branch of aeronautical engineering during the past years in a manner that has been an asset to the profession."

Jensen is the first from Convair to receive the society's highest award.

The citation added: "It is obvious that your Company's cooperation with him was an instrumental factor . . ."

Jensen is a member of SAWE's government-industry committee. The organization has 25 chapters in the U. S. and members at large in many other countries.



HONORED — H. L. Jensen (right) receives certificate of Honorary Fellowship in Society of Aeronautical Weight Engineers from Fred H. Wetmore, chairman of honorary fellowship committee and president of Los Angeles chapter of SAWE. In background (from left) Andrew Kalitinsky, Centaur assistant program director for engineering; Grant Hansen, Convair vice president and Centaur program director; Norbert J. Carraway, national executive secretary of SAWE.

New Lineup Put in Effect For Convair's SLV Program

(Continued from Page 1)

office; and F. D. Applegate, engineering.

Ames said the establishment of the SLV-3X program office comes at a significant and opportune time since the SLV-3X is in its initial design phase.

The following also report to Ames: W. F. Miller, manager, program development; R. J. Riddell, manager, contracts; J. B. Morgan, manager, financial control and administrative support; and H. K. Capper, manager, configuration management and program control.

Reporting to F. D. Applegate are: P. J. Lynch, chief design engineer, mechanical and structural design; C. E. Wilson, chief design engineer, instrumentation and electrical design; H. A. Mellinger, manager, systems engineering and reliability; and T. L. Maloy, manager, test integration.

R. S. Campbell, manager of reliability control-SLV and special projects, reporting to P. I. Harr, director of reliability control, continues to be responsible to Ames for providing reliability control support for SLV programs.

Ernest Wade, chief design engineer of guidance and control, reporting to W. W. Fox, director of product design, is responsible to Applegate for providing guidance and control support for SLV programs.

F. A. Stephenson, assistant chief technical engineer of aerospace technology, reporting to M. Dublin, is responsible to Applegate for providing aerospace technology support for SLV programs.

Ames said the organizational change would bring about 350 people into the SLV program, making a total of around 850. Ames added that very few people and very little furniture would be physically moved because most of the people involved were already in Bldg. 33 at the Kearny Mesa plant.

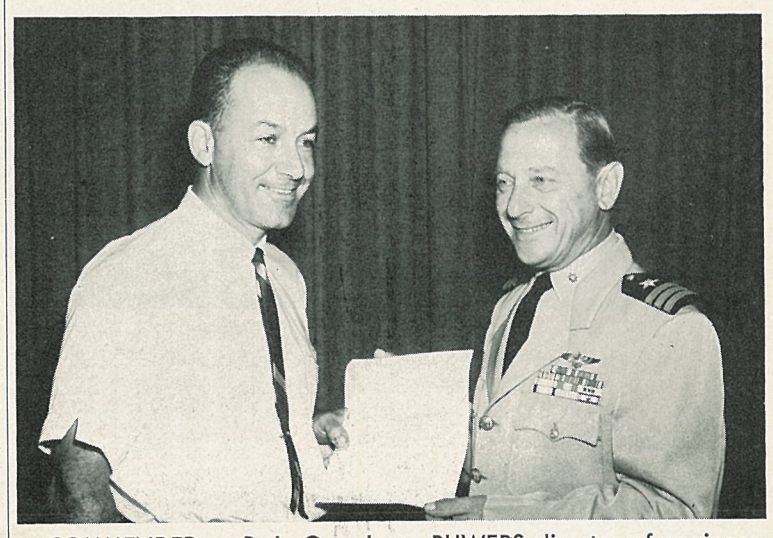
Moore Transferred To New Post at L.A.

D. E. Moore, chief of quality assurance division of the AFPRO at Convair since February, 1958, has been transferred to Los Angeles as deputy director, Directorate of Quality Assurance, headquarters Air Force Contract Management Division.

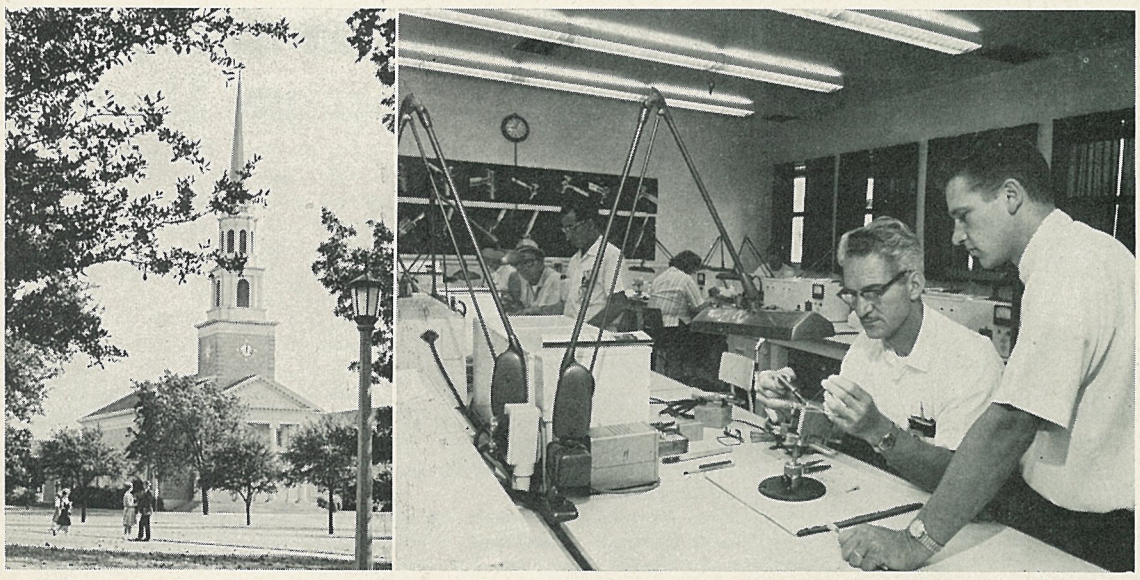


D. E. Moore

Moore served in the Merchant Marine during World War II and was a Convair employe before entering government service.



COMMENDED — B. L. Grondona, BUWEPS director of engineering at San Diego, receives letter of commendation from Cdr. E. J. Frankiewicz, Assistant Bureau of Naval Weapons Representative, for a cost reduction suggestion which will save nearly $40,000.



WIDE RANGE — Educational opportunities available at General Dynamics divisions cover enormous range. At left is campus view at Texas Christian University, where many GD/Fort Worth employes take courses. At right is scene at Convair's Kearny Mesa plant during recertification course to assure soldering techniques are up to NASA requirements. Ed White, Dept. 130-3 instructor, is approving work of C. W. Zagami, Dept. 756-0 student.

Classroom Hours Total a Million As GD Employes Gain New Skills

General Dynamics employes during 1964 spent a million hours in classrooms, largely acquiring new skills, according to a survey of eight divisions.

The effort is significant of the increasing needs for ever wider skills to cope with the fast-changing demands of industry.

In line with General Dynamics philosophy to encourage self-development and provide a suitable environment, many of the courses were conducted by divisions themselves, though nearby colleges and universities also were widely used.

Approximately 60 per cent of total enrollments in all divisional training activities were in programs designed to improve the skills of hourly employes.

The total effort is impressive. For comparison, Stanford University estimated total teaching hours during 1964 at three million!

During the year, the eight divisions surveyed conducted a total of more than 4,000 classes with enrollments of nearly 64,000 students.

New hire orientation programs at the divisions involved nearly 11,000 individuals. At Convair, a 40-hour "Introduction to Engineering" course (providing a basic understanding of the missile field, products, work assignments, systems and reference manuals) was widely attended.

Almost all the divisions surveyed conducted procedures training courses, attended during 1964 by more than 8,000. In product familiarization, both general and specialized, there were more than 4,000. Typical of this category is an Electric Boat course of two 2½-hour sessions a week for 47 weeks. The first semester introduces nuclear submarine hull design and systems and the second semester deals with nuclear power.

There were 6,000 students attending general technical training classes and about 9,000 in various skills training.

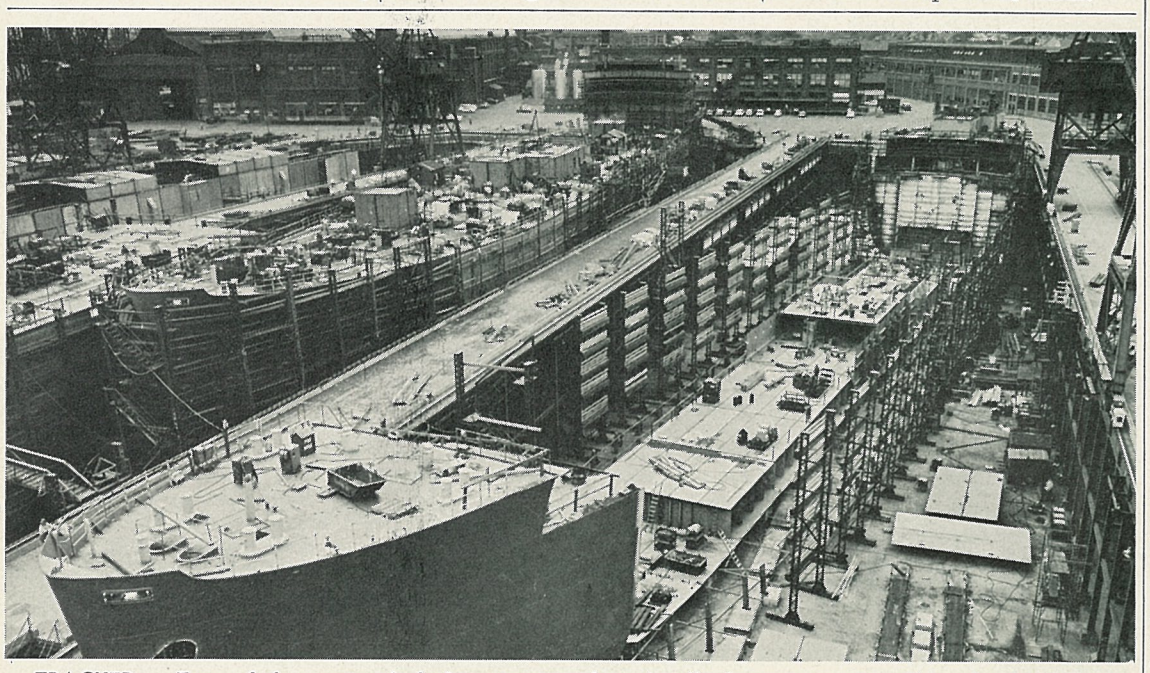
Most of the divisions conducted value engineering seminar workshops as well as various quality and cost improvement programs.

Virtually all the divisions surveyed offered tuition refund and other types of college level programs. Approximately 6,800 attended college classes on their own time to improve technical or managerial capabilities. Schools most often attended were San Diego State College, University of California, Claremont Graduate School, University of Southern California, University of Connecticut, New Haven College, Southern Methodist University, Texas Christian University.

Most of the divisions conducted orientation programs for new supervisors and a number sponsored different types of individual development programs involving rotation of personnel to broaden experience or know-how.

At Corporate Headquarters a Management Intern Program was put in operation, with recent graduates brought to New York for a year before assignment to divisions. While at New York they are assigned to different departments for periods of indoctrination and specific work assignments.

Two divisions had apprenticeship programs with 30 enrolled at Convair and 480 at Electric Boat. At Convair the program is a four-year, 8,000-hour apprenticeship combining junior college courses and on-the-job training in several occupational fields.



TRACKER — Two of three vessels being converted to Apollo Instrumentation Ships for NASA take shape in basins of Electric Boat division's Quincy, Mass. shipyard. Electronics division, Convair and Stromberg-Carlson are also involved in contract. Ships will be part of communication network tracking astronauts to the moon.

Savings and Stock Plan For Salaried Outlined

(Continued from Page 1)

can resign from the Plan and withdraw **all** his holdings, but in these cases there are special conditions affecting the employe's right to the Company's investment in his behalf.

Basically, the Plan rests on a cycle of four calendar years.

Using the simplest, least complicated situation, here is how it works:

During Calendar Year No. 1, the employe savings and Company contributions are invested by the Trustee as the employe chooses from the four options offered. Employe holdings cannot be withdrawn during this period without forfeiting the Company investment in his behalf in this period.

During Calendar Year No. 2, the same conditions exist, and they are the same in Calendar Year No. 3 and Calendar Year No. 4.

During November of Year No. 4, however, the employe may choose to receive after the end of that year the holdings resulting from both his savings and the Company's contributions made for him **during Year No. 1,** (including any increase as a result of interest, dividends or gain as a result of stock transactions). He may withdraw these without penalty, or he may leave them in the Plan.

At the end of Year No. 5, the Company's investment in the employe's behalf made **during Year No. 2** (plus any increase, etc.) is subject to withdrawal, together with the employe's own holdings as a result of his savings in Year No. 2 (plus any increase, etc.). And so on.

Thus, the employe does not receive "full title" to the Company's investment in his behalf until three years after the end of the year in which the investment was made.

However, in the case of death, retirement, layoff, total and permanent disability or involuntary entry into the military service, there is no "waiting period." The holdings resulting both from the employe's savings and the contributions of the Company become immediately available.

If supplemental retirement capital is the participant's major objective, he may choose to leave all, or some part, of his accounts (dividends and interest are automatically reinvested) until retirement, at which time the holdings resulting from his own savings and the Company's contributions become immediately available. Holdings in Government Bonds and in the "diversified portfolio" are payable in cash, based on the current market value at the time, and General Dynamics common stock in negotiable certificates, with any fractional share paid in cash.

However, for those who anticipate special financial obligations in the meantime, (such as financing college careers for children), the Plan's short term provisions offer considerable latitude. These are fully explained in the Savings and Stock Investment Plan booklets. Also spelled out are other features of the Plan, including possible tax advantages.

If, after attending the meetings explaining the Plan, and reading the booklet, there still are questions in your mind about any features, get in touch with your division industrial relations department.

An Information Quiz On the Savings Plan

(Following, in question-and-answer form, is supplementary information on the Savings and Stock Investment Plan which may be of interest.)

Question: Who is the Trustee that will handle the Plan's funds and determine what securities to include in the "diversified portfolio"?

Answer: Bankers Trust Company of New York City.

Bankers Trust is the sixth largest bank in New York City and the ninth largest in the U. S. It ranks first in the trust field in the world, including management of pension plans, savings plans and other employe benefit plans. The bank has 63 branches in Greater New York and has international offices abroad. It lists nearly 7,000 staff members.

Question: Does General Dynamics have anything to say about how the Trustee invests?

Answer: No.

Question: Can I be assured that I will receive back from the Plan at least as much as I put in it? In other words, can I lose?

Answer: Any investment involves an element of risk of loss as well as an opportunity for gain. Suppose you elect to invest entirely in Government Bonds, which would be the most conservative option. The bonds in which the Trustee will invest are not the Savings Bonds with which we are familiar, but bonds of large denominations that do fluctuate in market value, though within a narrow range. As for investment in the "diversified portfolio" and General Dynamics common stock, there is always present the factor of changing values as the stock market advances or retreats. No stock market investor can be absolutely certain that at any given time his holdings will be worth as much as he has invested in them. Stocks of even the soundest blue chip companies fluctuate from time to time. However, the Company's contribution of 50 cents for every $1 you save can go a long way to protect you.

Question: In the event that I make an early withdrawal, can I at a later date put the money back into the Plan and still get credit for the Company's contribution?

Answer: No.

Question: May I use my account in the Plan as collateral for borrowing money?

Answer: No.

Question: What happens if I transfer from one division to another?

Answer: Your membership in the Plan is not affected.

Question: Suppose I am laid off, withdraw the holdings due me, but am rehired by General Dynamics at a later date?

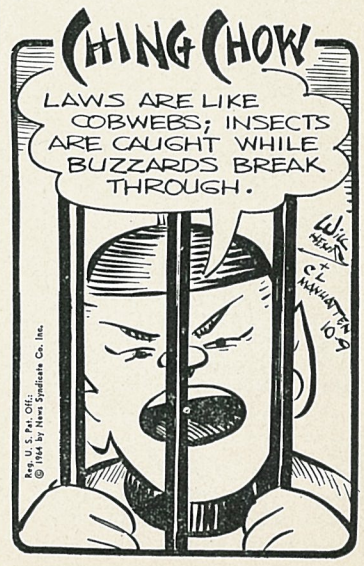
Answer: The time you are eligible to rejoin depends upon how long you have been off the Company payroll.

Question: If I join the Plan, what happens to the Payroll Savings Plan through which I have been buying Savings Bonds?

Answer: Nothing. It continues in effect as long as you desire.

Question: If I join the Plan, will the Government Bonds be sent to me, as are Savings Bonds?

Answer: No. The Government Bonds involved in the Plan will be held in trust by the Trustee, and when you withdraw your holdings of Government Bonds you will receive their value in cash.



People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

RICHARD NEUENDORFFER has been transferred from Electric Boat to the International Group as a European representative. With EB since 1954, he had been director of customer relations for the last six years. He will be based in Paris, responsible for Naval program development. He holds a BS from the U. S. Naval Academy, and an MS from University of Rhode Island, mechanical engineering.

MARK R. SELDON (1962) from GD/Convair to reliability specialist, GD/Pomona; **DONALD F. JACKSON** (1952) from GD/Electronics (San Diego) to senior requirements representative, Stromberg-Carlson (San Diego); **JOHN M. ANDERSON** (1956) from Pomona to senior electronics engineer, Convair.

Pilot Earns Degree Studying at Night

Nate Murphy, Convair pilot in production flight, received his bachelor's degree in political science from San Diego State College this summer after five years of night classes.

Murphy returned to school in 1960 shortly before he joined the former Astronautics division as an engineering writer. He was resuming higher education interrupted by 20 years as a Navy aviator. Before joining the service in 1941 he had three years' work toward a mechanical engineering degree at Northeastern University.



SKIMMER — Convair's Charger comes in low over deserted buildings in San Diego back country to show its capacity to maneuver at treetop level. It can take off and land in less than 500 feet.

F-111 No. 1 Flies Mach 2, More Flights Planned

F-111 No. 1 made the first Mach 2 flight of the variable-wing fighter at GD/Fort Worth Aug. 23.

"We were highly encouraged by the flight and with data obtained," said R. P. Scott, chief F-111 flight test.

Veteran test pilot Dick Johnson moved F-111A No. 1 to 40,000 feet and swept the wings back to a limit of 72.5 degrees before assaulting the twice-the-speed-of-sound "barrier." Flight-test engineer was O. D. Lively.

The 55-minute flight—the 127th made in the overall F-111 test program — pushed total F-111 flight time to 180 hours, 36 minutes.

"The Mach 2 flight was, indeed, a significant milestone," Scott said. He added that further flight testing would be conducted in the Mach 2 regime before flights were made at the airplane's design speed—which is above Mach 2.

Meanwhile, testing continued apace with five other F-111s—including one Navy F-111B—in the overall test program.

F-111A No. 2, down recently for modifications at GD/FW, was expected to resume flights in late August. These flights will include mainly engine-airframe compatibility tests and flight-control demonstrations.

At Edwards AFB, F-111A No. 4 continued high-lift demonstrations and a check of stall characteristics at medium altitudes. No. 4 is equipped with the Navy wing.

F-111A No. 5 was to resume flights last week after being down for painting and other minor modifications. The plane is slated for extensive testing at Eglin AFB starting in early October.

The Navy airplane resumed flight-testing at Grumman Aircraft's facility at Calverton, N.Y.

MANSELL EARNS QUALITY DEGREE

Ronald C. Mansell, reliability engineer at Stromberg - Carlson's Data Products, has received the first Associate of Arts degree in quality control and reliability given by San Diego City College.

Harry Lund to Talk At National Meeting

Convair's preventive maintenance program will be outlined to the American Institute of Industrial Engineers, Inc., at next week's (Sept. 9) national meeting at Patrick AFB, Fla.

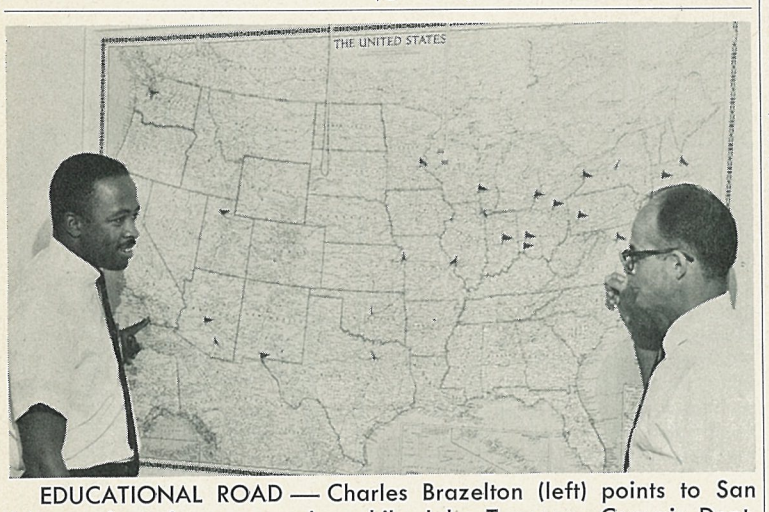
Harry Lund, supervisor of maintenance planning and scheduling for all Convair facilities in San Diego and off-site bases, will describe the division's system under the title, "Planned and Scheduled Preventive Maintenance."

Looking at plant preventive maintenance from a manager's viewpoint, Lund explains that scheduled upkeep of equipment on a non-interference basis, that is, when machinery is not in use or on off-shifts, reduces down-time and repair costs.

Labor Day Holiday To Affect Salvage

Salvage yards at both Convair plants will be closed this coming Saturday (Sept. 4) because of the Labor Day holiday weekend.

Regular alternate Saturday schedule will resume the next week. Lindbergh Field site will be open for employe sales on Sept. 11 and 25, and Kearny Mesa yard will be open Sept. 18, from 8 a.m. until noon.



EDUCATIONAL ROAD — Charles Brazelton (left) points to San Diego where he now works, while John Tannone, Convair Dept. 130-9, professional placement and personnel, points to Washington, D.C., where Brazelton will finish requirements for MS in mathematics while on educational leave. A number of Convair men are currently going back to college under the leave program.

Area NMA Golf Sign-ups Begin For Two Meets

Entries are being accepted now for the San Diego Area Council of National Management Association's second annual golf tournament which will be held Oct. 23, 24, or 30 during the national NMA convention in San Diego.

Sign-ups must be received by the tournament committee by Sept. 27. Play will be over Cottonwood and Bonita Valley Country Club courses.

San Diego area members also are eligible to compete in the NMA National Convention Tournament but must play a second 18-hole round on a separate day, which requires a separate entry fee, to qualify.

Entry fee, including greens fees, for either tournament is $7.50. Individual and team prizes will go to low gross and net scorers. In addition, awards will be given for special events.

Entries and fees are to be sent to Ernest Paul, 5035 Milton St., San Diego.

Tool Society Elects Four From Convair

Four Convair men have been elected to top offices in the newly-formed Chapter 189 of the American Society of Tool and Manufacturing Engineers.

Elected at the first meeting were Jim Duffy of Convair, chairman; Lew Pratt, Aeronautics Supply, first vice president; Dan Brimm, Kem-Tronics, second vice president; Dave Haslanger, Convair, third vice president; Walt Burhop, Fairchild Camera, fourth vice president; Tom Cross, Convair, secretary; George Webber, Convair, treasurer.

Charter night of the new chapter, which includes the north San Diego County and all GD plants, will be Sept. 14, at Stardust Hotel. Social hour is at 6 p.m.; dinner at 6:45; and ceremonies at 7:45. The public is invited.

Dinner reservations at $3.75 can be made through Haslanger, ext. 1543, Kearny Mesa plant.

Small Boat Handling Course Starts Sept. 8

An 11-week course in small boat handling and elementary piloting will start in the CRA Clubhouse next Wednesday (Sept. 8), 5-7 p.m. Enrollment closes after the second class session.

Material covered will include safety afloat, seamanship, aids to navigation, small boat handling, rules of the road, and the compass and charts.

Anyone interested in boating, whether he owns a boat or not, may take the course which is sponsored by the Helix Power Squadron, affiliated with U. S. Power Squadrons.

A certificate of completion is given those who pass the U. S. Power Squadrons examination at conclusion of the course. For information call Lee Schenke, ext. 2465, Kearny Mesa plant.

'Aerospace Survival' Subject of Address

Reliability control department will sponsor the next meeting of the Convair Management Club, to be held Sept. 15 at the Community Concourse.

Featured speaker will be T. G. Miller of the Management Services Division of A. D. Little, Inc. Subject of Miller's talk will be "Survival in the Aerospace Industry."

Cocktails at 6 p.m. will be followed by Chateaubriand dinner. A $3.50 dinner ticket includes parking in the Concourse Parkade. (Dinner tickets must be validated at the desk for free parking.)

Tickets may be obtained from Management Club Boosters or from W. J. Martin, ext. 697 at the Lindbergh Field plant, or from Russ Medlock, ext. 4421 at the Kearny Mesa plant.

NASA Study Continues On Costs of Space Trips

A cost model study under way at GD/Fort Worth will help National Aeronautics and Space Administration calculate the economics of a manned trip into space.

The division's operations research group has completed roughly a third of the 13-month study for NASA's Manned Spacecraft Center at Houston, Texas.

NASA is expected to use the model to figure the cost of manned space flights during the next 20 years or so.

The "model" is based on a wealth of data concerning every major aspect of cost for the manned spacecraft.

"It provides decision-makers with a systematic—and more important, automatic—procedure to calculate detailed costs associated with design, development, procurement, and operation of the spacecraft," explained Dr. C. B. Moore, chief of operations research.

Dr. Moore said the model's function isn't to take the cost-estimating job from humans, but to free humans from the massive computation involved.

The variables involved in such a program are, of course, almost infinite. For example, the model must be made to consider such diverse factors as the value of the dollar in 1980, or what kind of propulsion system might be used on a trip to Venus.

"As for the best propulsion system, we know that a nuclear system provides more power, but at this juncture, it's not technically proven," Dr. Moore said.

Such are the weighty problems which will confront NASA planners when they sit down to figure what a trip to a distant planet will cost in hard dollars.

The "what ifs" must also be included in a sound cost model. What if the spaceship goes off course? What if the trip takes much longer than expected? What if production costs double because of inflation?

"Every precaution must be taken in such a program," Dr. Moore said, "and the economic implications of these factors must be considered in making a decision."

A "price tag" must be put on all such factors. Planners can then feed the data into computers — along carefully planned lines — and come up with a ball-park figure.

Mgt. Club to Sponsor 'Twi-Nite' Golf Meet

The Convair Management Club is sponsoring an eight-week Twi-Night golf tournament. Play starts at the Mission Bay golf course Oct. 4. Entry closes Sept. 15.

Teams will consist of four men and one alternate, medal play. Teams may choose the night they wish to play.

Entry fee is $20 per team and green fees are $2.25 per week. Fees, which must accompany entry blanks, will be returned in the form of weekly and final prizes.

Call Jack Nichols, ext. 1105 at Kearny Mesa, for details.

Trophies Awarded In Women's Golf

Margaret Clark and Ann Gagnon won trophies for low scores in their respective flights in the Aug. 14 monthly tournament of GD Women's Golf Club.

Other winners in the "blind-five" match (score based on five unknown holes) were: Class A—Mary Ransom, second; Jerri Cooper, third; Iris Oster, fourth; Marge Gibson, fifth; Class B—Juanita Garcia, second; Jeanne Hawthorne, third; Jerre Myers, fourth; Lorine Waldron, fifth. All received gift certificates.

Next tourney for lady golfers will be Sept. 11 at Mission Bay course.

Convair Delegation Attends Workshops

A. J. Woodington, manager of Convair's standards and calibration laboratories, conducted the Members-Delegates Assembly and Fall Workshops of the National Conference of Standards Laboratories in Anaheim, Calif. Aug. 19-20. Woodington is chairman of NCSL.

The meeting, sponsored by the National Bureau of Standards, was attended by government calibration personnel as well as managers of calibration functions from over 100 industrial firms throughout the U.S.

Also attending the workshops from Convair were: J. E. Vondracek, D. E. Burgess, J. W. Grochowski, and T. L. Lamoureux Jr.

Rockhound Workshop Reopening Next Week

CRA Rockhounds will hold their first fall meeting next Thursday (Sept. 9) at Gillespie Field Clubhouse. A 6:30 p.m. potluck will be followed by a business meeting and discussion of plans for the club year's first field trip.

The Rockhounds' lapidary workshop at Gillespie Field will reopen next week (Sept. 8). Regular Wednesday night instruction and workshop sessions will be held each week, 7-9 p.m. Lapidary classes continue at the Kearny Mesa Clubhouse every week evening.

Pedestrian Overpass Offers Safe Passage

Parking lots across Pacific Highway from Lindbergh Field plant now are connected by the new pedestrian overpass crossing the north-bound lane, which was opened to public use last week.

Drivers using parking lots No. 4 and 5 on the east side of the highway can now cross the new overpass to lot No. 3 and Overpass No. 2 into the plant. Parking lot No. 5, located between Vine and Washington Sts. along the east side of Pacific Hwy., has been resurfaced and is open to all Convair employes.



CAPE GRADS — Twelve Convair employes at Eastern Test Range recently completed National Management Association 10-week course, "Principles of Management — Technical and Professional." Class was sponsored by Convair ETR Management Club's educational committee. Front row, left to right: C. E. Manchee, D. L. Butler (instructor), Linn Leitner, and A. T. McArdle. (Back row, left to right) Q. E. Gilmore, C. W. Tucker, J. F. Harrington III, J. W. Mabee, M. S. Maloy, and Neil Mullins. Graduates not shown here are L. R. Hixon, Wayne Fisher, and J. B. Jeffers.

Oceanographic Buoy Prototype Off Florida, Hoping for Storms

Convair's "Bravo," oceanographic buoy prototype, is waiting out its second hurricane season off the Florida coast.

It was launched last fall just before the hurricane season, but caught only the small Hurricane Isbell. This is another year, though, and "bigger and better" storms could be brewing, Convair oceanographic experts hope.

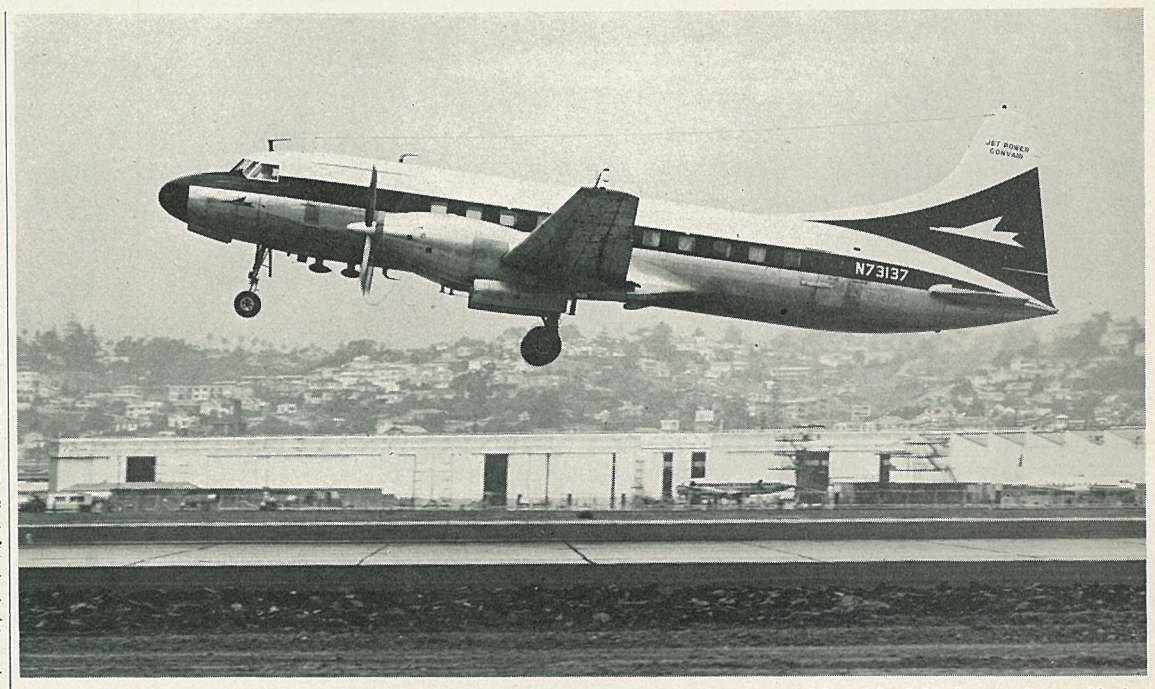
Bravo, now a full year old, was retrieved from its Gulf Stream location Aug. 10 to be readied for the hurricane test. It had successfully withstood three-and-a-half months in the Gulf Stream's fast running currents.

During the 10 days it was docked at Miami, Fla., it was equipped with a heavier mooring line, and a new current meter designed by Convair's oceanographic program manager, Robert Devereux. The meter is designed specifically to withstand currents of the velocity found in the Gulf Stream, said Devereux. It has been thoroughly "ruggedized" with steel rotor and heavy bearings.

The buoy was relocated Aug. 20 just north of its last mooring site, some 14 miles east of the Florida coast. It will remain in the present location until it is exposed to a well-developed hurricane, or, in case a storm does not materialize, until time for the next test phase this winter. This will be deep water testing in depths of over 16,000 feet off the south coast of Puerto Rico.

Devereux was in Washington, D.C., last week to report to the Office of Naval Research, contracting agency, on the retrieval and relocation of the buoy. The buoy has been developed by Convair for ONR in the application of advanced technologies of electronic measurement and radio telemetry to the task of acquiring basic oceanographic data.

Practically the entire oceanographic crew was on site in Florida during the re-equipping and relocating of Bravo. Ken Samples, assistant program manager, was on deck during mooring operations. Others monitoring the task were Stan Uyeda, deputy program manager in charge of sea tests, Warren Hoover, Jack Heming, Louis Scott, and John Thayer.



ANOTHER FIRST — Convair 600/440D makes maiden flight Aug. 20 with 1½-hr. swing off the Southern California coast. Prototype is blend of Rolls-Royce Dart turboprop engines with Convair 340 or 440 airframes to make possible payload increase of up to 2,850 lbs. and cruising speed increase of 50 mph.



F-102 LINE — E. J. Huntsman (center), in charge of Convair modification tasks, and L. F. Lau, operations, look over plan for F-102 line prepared by J. R. Mackill (right), space planner in plant engineering. Seven planes will be in works at one time in Bldg. 3 at Lindbergh Field plant for de-mothballing under AF contract. First craft are due to arrive early this month.

Day to Day Standings in Do Good Work, ESs Kept Current on Dept. 031 Bulletin Board

Dept. 031 people can see just what they are doing and where they stand at any given time in the overall cost reduction drive by a glance at a colorful graphic presentation in the Bldg. 5 production area, Lindbergh Field.

"The Key to Cost Reduction and ESs" gives a day-by-day account of Do Good Work achievement, Employe Suggestions approved, cost reduction and value control improvement. Meaning of a "defect," curse of Do Good Work, is spelled out, thus: any condition noted, either verbally or in writing, by inspection when called to check a job that makes the job unacceptable. Such items as bad rivet, short bolt, scratch, wrong or missing material are listed as examples.

The ES honor roll carries the names of all submitters who have had suggestions approved since the first of the year. A thermometer shows how well the seven supervisors are doing toward their cost reduction target of $12,750.

Enrollment to Begin In Evening Classes

University of California Extension's fall program of evening classes for adults begins the week of Sept. 20 at 23 locations throughout San Diego County.

Enrollments are being accepted by mail or in person at the University Extension office, 1221 Fourth Ave., SD. Catalogues listing class schedules are available at the UC office or at Convair educational services offices.



PROGRESS REPORT — Foreman Clarence Strand (back to camera) explains Dept. 031's unique cost reduction bulletin board to Division President J. R. Dempsey, second from right; W. E. Magnuson, chief of special projects in reliability control; W. L. Van Horn, Kearny Mesa plant works manager (right); Frank Blair, Lindbergh Field plant works manager (left).

Idea Men Earn $400 Each With Cost Reducers

Two Convair "idea men" earned more than $400 apiece in extra cash in August with Employe Suggestions which saved the company over $14,000.

V. R. Pieters II, administrative accountant in general accounting, had four ESs approved last month and another pending. All dealt with means of saving money by change of methods in invoicing or reclaiming tax funds on gasoline used by the division. Total amount saved a year is estimated at $8,970. Pieters received two first payments of $250 and $100, and two others of $50 each to wind up with $450 in the month. He will be entitled to second installments on two ESs when they are reviewed after the first of the year.

D. G. Tessereau, master scheduler in tool control, had $444.10 added to his income last month for two suggestions. Both had been submitted during the Operation Underbrush program geared at reducing paperwork. One payment of $332.10 is final installment on a simplified method of tooling die metal accountability reporting which saved $4,421. His other award of $112 was paid for a suggestion to discontinue several weekly reports on tool status and location. This saves the division a net of $1,120 a year.

COST REDUCTION 'FIRST' RECORDED

John D. Milling, Convair manager of accounting, is responsible for another first in Convair's cost reduction program, according to Erle Hill, division controller.

Milling, as manager of accounting, has required that requests for capital facilities, which were justified on the basis of cost savings, be accompanied by a reduction in the budget of those who make the requests for facilities. As a result of Milling's action, additional savings of about $500,000 are being processed in the cost reduction program.

John Jodka, chief of general accounting, reported that the first two such requests for facilities to be processed indicate a saving of $139,379.

City Officials Tour Kearny Mesa Plant

The city manager of San Diego, Tom Fletcher, and 26 of the senior officials in city management recently visited Convair's Kearny Mesa plant.

Purpose was to familiarize them with products and the division's five-year marketing forecast.

R. T. Blair Jr., assistant to the president, was host.

Convair's Skills Inventory System May Prove Guide to U.S. Post Office

Albert G. Bergesen, associate director, employment and placement division, bureau of personnel, U.S. Post Office, visited Convair recently to review the division's manpower skills system.

Bergesen said that to provide fullest utilization of the talents of the postal service's 585,000 employes and to ensure equal opportunity for their promotion and assignment, the Postmaster General is considering the use of a skills inventory.

Convair's skills inventory, designed to catalog and identify the skills and experience of salaried scientific, engineering, and administrative personnel, is stored on data processing equipment. This information is readily available for proposal efforts, promotion, transfer, and effective use of personnel. A promotion inventory has also been established to identify key technical personnel qualified for advancement.



MEN AND SKILLS — Albert G. Bergesen of U.S. Post Office (left) discusses Convair's manpower skills inventory system with George Rice, Dept. 130-9 professional placement representative. Bergesen is inspecting companies which have manpower skills inventories that could be adapted to U.S. Post Office needs.

Fifteen in Centaur Project Congratulated On Ideas That Reduced Costs by $859,000

Fifteen Convair employes in the Centaur project have been awarded cost reduction certificates crediting them with total savings of $859,000.

Grant Hansen, Convair vice president and Centaur program director, made the awards.

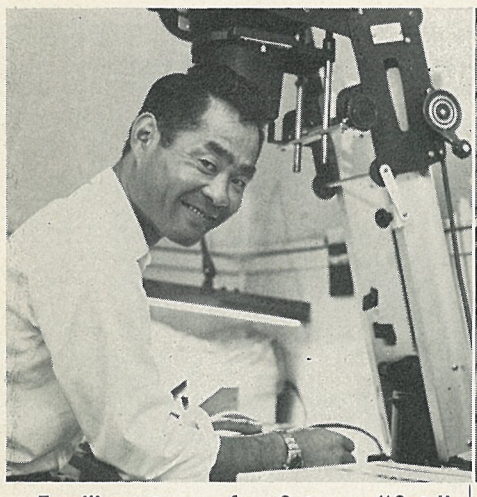
Highest saving—credited to G. D. Koulaxizes—was over $200,000.

Other cost reduction award winners were: E. N. Bailor, A. C. Burkhart, M. L. Clayton, W. E. Crow, R. L. Combs.

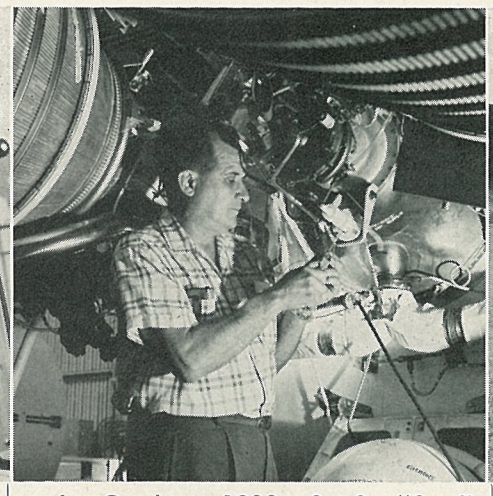
W. L. Dittmann, P. R. Green, G. B. Hartmann, T. R. Harwood, K. C. Lejman, H. W. Maier, L. S. Peterson, Fred Rickon, and C. B. Simmons.



$859,000 SMILES — Happy group shown here are Convair employes in Centaur project who were recently credited with $859,000 in cost reduction awards. Grant Hansen (left foreground) vice president and Centaur program manager, hands cost reduction certificate to G. D. Koulaxizes, credited with highest award of group — over $200,000.



Familiar stance for Setsuya "Sets" Fukuno is under the enlarger in the Lindbergh Field plant's photo lab where he develops color film. Although a native San Diegan, Sets was educated in Japan where he, his brothers, and sisters were sent after the death of their parents. He was able to return to San Diego via the mustering out route after serving with the U.S. Army during the occupation. Sets enjoys traveling — he spent his vacation this summer in Southeast Asia with the highlight the week he was in Thailand, he says. Two years ago he returned to Japan to visit a brother and a sister. Sets spends his weekends skin diving.



In October, 1939, S. S. "Sam" Stearns was hired by Convair as a fuselage assembler on the XB-24. Now he is in Dept. 972-0 at Kearny Mesa. He installs electrical and instrumentation harnesses on Centaur. Looking back on his long Convair career, Stearns remembers fondly his work on the F-102 and F-106 and shows his pride in Centaur. "The AC-6 flight was wonderful. Nothing was left to chance." Stearns has many avocations. Outdoors he camps, hunts and fishes—antelope and deer in Utah and Northern California, trout in the High Sierra and yellowtail from the deep sea. Indoors he repairs appliances as a hobby.



Carl Larson, Dept. 250-4, has been with Convair 12 years, most of the time in maintenance. For the last six months he has been assigned to tending the trees, plants and lawn of the Kearny Mesa plant. "I don't know the names of all the plants, but I'm beginning to know their characteristics. For example, there are some near the cafeteria that are delicate. They'll only take an inch of water every two weeks." Larson is a passionate deep sea fisherman and specializes in yellowtail. He remembers a day in 1944 when he landed four, all over 25 lbs. The Larsons have two sons in the Air Force, a 13-year-old at home and a married daughter.



Juanita Jones of Stromberg-Carlson is, in her own description, a "jack of all trades" as she represents the industrial relations department at S-C Plant 2. She processes all insurance claims for both plants, handles security matters at the Hancock St. facility, is switchboard relief operator, sends and receives all TWXs for both plants, sells CRA tickets, supplies first aid, and answers so many questions that "sometimes I think the phone grows out of my ear." Before she came to Stromberg-Carlson 8 years ago Juanita was with the Ventura County tax collector's office for 14 years and with Union-Title Insurance in San Diego. Gardening is her favorite outdoor sport.

1,000 Celebrate Atlas-Centaur Success, Watch Film of Launch

A balmy summer evening, blankets on the lawn, a buffet dinner, refreshments, good cheer, music, and high morale set the stage late last month as more than 1,000 Convair employes in the Centaur project celebrated.

The perfect evening matched the reason for the celebration: the perfect flight of Atlas-Centaur Six.

There were no speeches—just a brief talk by Grant Hansen, Convair vice president and Centaur program manager. He thanked the people for their good work, and said he could feel their eagerness to get on with the Centaur program.

Speaking of the AC-6 flight, Hansen said, "To say that it was perfect is an understatement; it was a tremendous performance."

NASA's Ron Rovenger, assistant manager, Centaur project office, San Diego, said of the flight, "It was just very great. That sums it up for everybody. Lots of work paid off."

Daniel Sarokon, Convair test conductor who launched AC-6, flew in from Cape Kennedy with audio tapes of the last five minutes of the countdown and colored movies of the launch. Sarokon said, "AC-6 was an unqualified success."

C. B. Simmons, supervisor of administrative services in the Centaur project, said, "The word 'nominal' doesn't describe that flight, it was perfect."

Typical of the family members who attended was Addie Wilkens, wife of George Wilkens. Addie's right leg was in a cast from her heel to her hip. Asked why she went to the trouble to come to the celebration wearing the cast and walking with crutches, Addie laughed and said, "My husband is so proud of his work he wouldn't miss the party, and I'm so proud of my husband I wouldn't stay home."

Knickerbocker Wins Coineer Proof Set

Irving Knickerbocker won the 1962 U.S. proof set given as door prize at last month's Coineers meeting.

Winners of the $5 gold pieces in the drawing were Mrs. Dorothy Stanford, Robert G. Kinder and Lee Vogt. Steve Ames, H. W. Rubottom, and John Redlein drew the 1965 Canadian proof-like sets. Everybody attending the meeting received a B.U. 25 centavo 1964 Mexican coin.

This month's regular meeting will be Sept. 15, 7:30 p.m., in the main Convair cafeteria, Pacific Hwy.

CRA Offers Bargain On Charger Tickets

Football enthusiasts can see the Chargers' first home league game against the Denver Broncos at reduced price through CRA arrangements if they get their tickets fast.

Reserved seat price to the Sept. 11 game has been reduced from $3.50 to $2.50 for all GD people. Tickets are on sale at Convair employe services outlets at Kearny Mesa and Lindbergh Field plants and at the CRA Clubhouse.

Anderson Outshoots Black, But It's Close In Pistol Competition

Roscoe Anderson paced the CRA Pistol Club's Aug. 22 matches by outshooting the competition to take first in master class of the .22-cal. Police Course. He scored a 294.

Harry Black was a close runner-up with 292.

Dick Sutton was first in the expert with a 275, followed by A. C. Greeley with a 271. Byron Clapper, with a 243, topped the sharpshooter event. F. A. Lewis was two points behind for second spot.

Jim Halfacre was first in the Short National center-fire match. Roland Schneider was second; Black, third; and Dale Young, fourth.

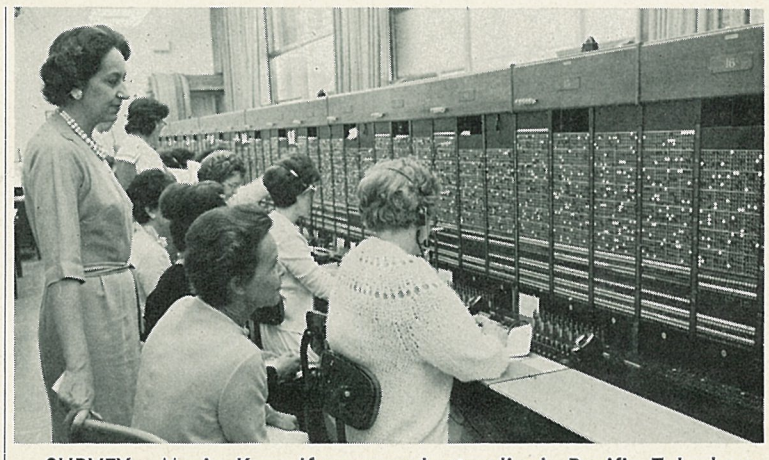
Blackburn Is Leading Diving Competition

Present standings in the competition for Delta Diver of the Year are: Larry Blackburn, 53 points, Francis Harvey, 44 points, Rod Johnson, 30 points, and Del Daniels, 28 points.

Standings in the last sea-hunt competition dive were Francis Harvey, Jim McGinnis, Chuck Davis, Bob Eaton and Howard Gutzmer, in that order.

Next Delta Divers dive will be an abalone race (first five legal abalone to be brought to the beach) at the foot of Marine Street, La Jolla, Sept. 19, 10 a.m.

The abalone race record is held by Jorge Zorrilla. In 1956 he brought five abalone to the beach in 10 minutes.



SURVEY—Marie Kern (foreground, standing), Pacific Telephone Co. service consultant, and Mrs. C. H. Bowen (seated), Convair chief operator, watch during annual survey by phone company to evaluate equipment operation with view to possible improvement. During one-day study, 32 telephone company girls took part, observing equipment and Convair personnel in action.

S-C Mgt. Club Plans Meeting at Valley Ho

Stromberg - Carlson Management Club will resume its monthly meeting schedule Sept. 9 at the Valley Ho Restaurant in Mission Valley.

Guest speaker will be Richard Johnson, supervisor of San Diego City Schools' program for handicapped children.

Social hour starts at 5:30 p.m., dinner at 6:30.

TOOL STORES HOURS SET

A new schedule has been set for tool stores operated at Convair plants by Western Metal Supply Co. The Kearny Mesa tool store in Bldg. 5 is open for sales Mondays, Tuesdays, Thursdays and Fridays, 9 a.m. to 5:30 p.m. The store at Lindbergh Field, Bldg. 10, is now open Wednesdays only, 8 a.m. to 4 p.m.

Four Buses Chartered For Dodger Ball Trip

Four buses have been chartered for the Oct. 1 group trip to the Dodgers vs. Milwaukee baseball game, last of the season for Convair ball fans.

Departure time will be at 5:15 p.m. from both Lindbergh Field and Kearny Mesa plants to give plenty of time for the trip to Los Angeles. Game time is 8 p.m.

Package cost of the trip, covering transportation, game admission, and a box lunch, is $6.50.

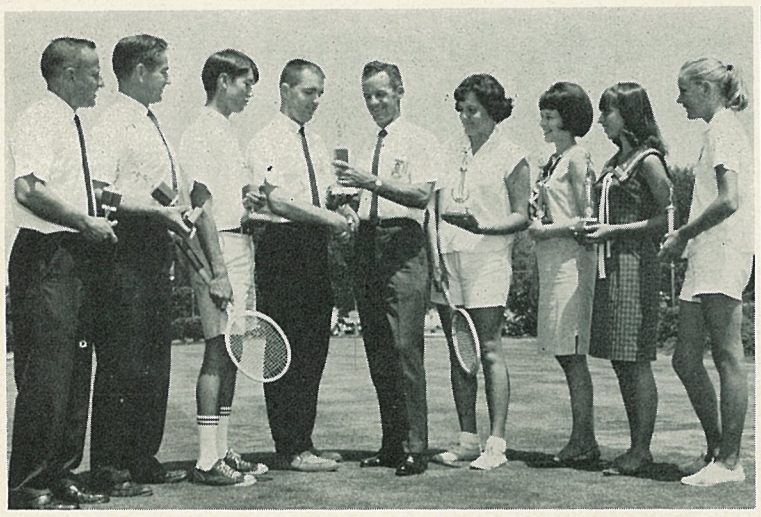
Everyone planning to go is urged to sign up and pay the fee as soon as possible. Seats will go on a first-come basis. Reservations can be made now at all Convair employe services outlets or at the CRA Clubhouse, Kearny Mesa.







AC-6 CELEBRATION — Photo at left shows some of about 1,000 Centaur project personnel and their families who gathered on balmy summer night for food, music, refreshments to hear audio tape of last five minutes of AC-6 countdown and watch color movies of liftoff. In center photo, mariachi band is joined by Danny Sarokon (with trumpet), test conductor for AC-6 launch, and Grant Hansen, Convair vice president and Centaur program director. In photo at right, Ron Rovenger, NASA assistant manager, Centaur project office, San Diego, and his wife, Jo, select buffet dinner.



TROPHY WINNERS — Tennis Commissioner Ray Hardy (center) presents winner's trophy in men's Class A to Dennis Hanrahan. Other first and second-place winners in novice tourney which ended Aug. 19 are (from left) Jim Jobe, men's Class A runner-up; Carl Richardson, men's Class B winner, and son, Tom, runner-up; Diane Story, women's Class A winner, and Judy Hanrahan, runner-up; Elsie Jobe, women's Class B winner, and Debra Story, runner-up.

Four GD Families Dominate Beginner Tennis Tournament

Eight top trophies in CRA's just-concluded beginners tennis tournament were kept in four families as the Richardsons, Hanrahans, Jobes, and Storys forged to the front of 42 contestants.

Round robin play-offs over the first three weeks in August climaxed the third novice instruction program held this season for Convair employes and their families. So far, 77 have completed the courses, said Commissioner Ray Hardy.

Men's Class A winner and runner-up honors in the last tourney went to Dennis Hanrahan (Dept. 142-1) and Jim Jobe (Dept. 830-0).

Carl Richardson (Dept. 951-4) defeated his son, Tom, to take top spot in the men's B class.

In women's Class A competition, the winner was Diane Story (father, Hal, in Dept. 146-0). Judy Hanrahan, daughter of Dennis, was runner-up.

Elsie Jobe, daughter of Jim, won the women's Class B contest by defeating Debra Story in the play-off.

Final novice instruction class for the current year will start next Tuesday (Sept. 7). Classes will be held on the CRA courts from 5 to 6 p.m. each Tuesday for 10 weeks.

Enrollment is limited to the first 24 people who register. Each participant will provide a can of unopened heavy duty balls which will be pooled. Only charge is $1 for trophies for winners of the class competition tournament.

To register call Hardy, ext. 2549; Bob Herold, ext. 3392; or CRA Headquarters, ext. 1111, all at Kearny Mesa plant.

Eighth Annual 'Autumn Weekend' At Big Bear Will Be Sept. 17-19

CRA Ice Skating Club has scheduled its eighth annual "Autumn Weekend" at Big Bear Lake for Sept. 17-19.

Reservations for the event, which has been a "sell-out" every year, are limited to the first 100 signing before the Sept. 10 deadline.

All the facilities of Big Bear's Wawona Lodge will be turned over to Convair people during the weekend. Activities include swimming in the large heated pool, badminton, volleyball, horseshoes, and ping pong. Nearby is hiking, fishing, boating, horseback riding, bowling, and, of course, ice skating, said Commissioner Bud Davies in announcing the arrangements.

Lodge accommodations are for two, three, four, and five persons. Housekeeping cabins are available for family groups up to 12.

Meals will be catered by Gil Hutter, Prophet Co. manager of the Kearny Mesa cafeteria. Ranch-style breakfasts will be served Saturday and Sunday, a poolside buffet Saturday noon, and an outdoor dinner Saturday night. A pizza supper is planned after the Saturday night dance. A Sunday noon snack will be set out before departure time.

A private skating session, at discount price, will be held for those interested on Sunday morning at Big Bear's Iceland.

Cost of the weekend, covering two nights' lodgings and four meals, is $12 a person. Charge for children under eight years is $6. Transportation is not furnished. Maps and instructions will be mailed to all who make reservations.

Sign-up and payment may be made now at any employe services outlet or at the CRA Clubhouse before next Friday (Sept. 10.) Further information may be obtained from Joan Kosen, home telephone 274-5227.

'BON AIR FLYERS' CLUB'S NEW NAME

CRA's newly-formed flying club has a name at last!

O. L. Shastain (Dept. 684-1) submitted the winning name, Bon Air Flyers, in a contest sponsored by the club and will receive one free flying hour in a Cessna 150 as prize.

The Bon Air Flyers will meet Tuesday (Sept. 7) at 7:30 p.m. in Room C of the CRA Clubhouse to hear a talk on flying in Baja California. "Where to, How To, and What Not To Do," will be explained by Marge and Jim Bracamonti, two of the most knowledgeable travelers of the area.

Glen Hemphill (Dept. 684-1) will be installed new president, succeeding F. J. "Mel" Melaniphy of Dept. 688-0 who is leaving the company to travel in Europe.

Receiving their private pilot's licenses recently were Joe LeVine (Dept. 587-2) and Art McLemore (Dept. 987-1) of Convair; Bob Potthoff and John Bauer of General Atomic.

RIDERS TO MEET

CRA Riding Club is scheduling a special business and social meeting for both first- and second-shift employes on Saturday, Sept. 11, 7:30 p.m. in the CRA Clubhouse. Plans will be discussed for a trail ride and cookout to be held sometime this month. All members are urged to attend.

Discounts Continue On 'Flying Machines'

Only a couple of days remain for Convair people to buy discount tickets to the Sept. 9 showing of the movie, "Those Magnificent Men and Their Flying Machines," now running at the Grossmont Cinema theater.

Tickets, at 20 per cent off regular prices, will be on sale at Convair employe services outlets and at the CRA Clubhouse until this Friday (Sept. 3).

Committee Appointed For S-C Recreation

A recreation committee has been appointed to set up an activity program for Stromberg-Carlson people in San Diego.

J. W. Swank, manager of S-C industrial relations at San Diego, has named Maxine Campbell, Carl Creager, Dan Macey, George Oatman, and Jerry Wetzel to activate the program.

Various sports and hobby groups will be organized as interest and funds warrant.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for the next issue of GD/NEWS is by noon, Sept. 8, ext. 3322, Kearny Mesa.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BOWLING — Winter leagues get under way this week. For late entries call CRA Headquarters.

BRIDGE—Weekly tournaments Fridays, 7:30 p.m., CRA Clubhouse. Master Point night Sept. 3.

CERAMICS — Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COINEERS — Meeting Sept. 15, 7:30 p.m., Convair cafeteria, Pacific Highway.

DELTA DIVERS — Meeting Sept. 8, 7:30 p.m., CRA Clubhouse. Abalone dive Sept. 19, 10 a.m., foot of Marine St., La Jolla.

EXPLORERS — Meeting Sept. 15, 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FLYING CLUB—Meeting Sept. 7, 7:30 p.m., Room C, CRA Clubhouse.

GARDEN CLUB — Meeting tonight (Sept. 1), 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — CRA tourney Sept. 11-22, Bonita Valley CC.

ICE SKATING — Sign by Sept. 10 at employe services or CRA Clubhouse for annual "Autumn Weekend at Big Bear," Sept. 17-19. GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — Shoot 9:15 a.m., Sept. 12, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tonight (Sept. 1), 7:30 p.m., CRA Clubhouse.

RIDING CLUB—Meeting Sept. 11, 7:30 p.m., CRA Clubhouse.

ROCKHOUNDS — First fall meeting Sept. 9, Gillespie Field Clubhouse. Potluck at 6:30 p.m. Rockhound Shack reopens Sept. 8, 7-9 p.m. Lapidary classes week nights at CRA Clubhouse, Kearny Mesa.

SPORTS CAR CLUB — Meeting Sept. 8, 7:30 p.m., Convair executive dining room, Pacific Hwy.

SQUARE DANCING—New beginners' course starts Sept. 14, 8 p.m., CRA Clubhouse. Register at first three sessions, Sept. 14, 21, 28.

TABLE TENNIS — Play and instruction Mon., Tues., Wed., Thurs., 6-10 p.m., CRA Clubhouse.

TENNIS — Sign now for last novice instruction course of season. First class Sept. 7, 5-6 p.m. Call Ray Hardy, ext. 2549, or CRA Clubhouse, ext. 1111, Kearny Mesa.

TRAVELERS — Meeting Sept. 7, 7:30 p.m., CRA Clubhouse. For information call Virg Marshall, ext. 2541, Kearny Mesa.

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.

Sports & Recreation



SQ. DANCE OFFICERS — CRA Square Dance Club officers for 1965-1966 season pose during installation ceremonies.

Sq. Dance Club Will Open Ranks For Only Time This Year Sept. 14

CRA Square Dance Club will open its ranks for the only time this year to beginners with a new instruction course starting Sept. 14.

Registration may be made at the first three class sessions, Sept. 14, 21, and 28, at 8 p.m. in the CRA Clubhouse, Kearny Mesa. Registration then will be closed.

Dottie and Van Vander Walker, popular instructors of CRA square dancing for the last several years, will teach the 24-week course. Classes will be each Tuesday evening, 8 to 10 p.m.

For information contact the newly-elected club president, Chuck Wheary, ext. 885, or CRA Commissioner Marty Stutz, ext. 1441, both Kearny Mesa.

Recently installed to head the club during the 1965-66 season, besides Wheary and his wife, Miriam, president, were Doris and Sam Poutney, secretary; Wathena and John Bard, treasurer; Bea and Ken Schwetz, social chairmen; Betty and Bob Dunstan, decorations; Jean and Judd Jones, publicity; Penny and Tom Robinett, representatives to the San Diego Square Dance Association.

Boat Builders Ahoy! Cooperative Program Reactivated by CRA

Convair people will have a chance to build their very own boats again with the reactivation of Convair Recreation Association's boat building activity.

The cooperative program, which permits builders to share the work and come out with a well-constructed 16-ft. fiber glass boat at an extremely low cost, will start again as soon as enough sign to make it possible, said Pete Beyrer of CRA Headquarters. Beyrer, who has directed boat building for CRA over the years, will be technical adviser.

Cost of the hull will be between $205 and $250. This includes the mold fee of $25 which must be paid at time of signing. Beyrer will purchase materials at a wholesale rate and resell to the boat building crews at cost. However, he says that each person should have around $200 cash on hand before he starts his boat.

Two persons will team to build each boat so that each person will only be required to work on two boats. Building will be done at the Gillespie Field boat building location, using the CRA molds.

Work hours will be on the weekends.

Beyrer said that a priority list will be established so that those signing first and paying their mold fees will be the first to start on their boats.

All people interested are urged to contact Beyrer immediately at ext. 1111, Kearny Mesa plant, or at Gillespie Field from 8 a.m. to 5 p.m. on Saturdays.

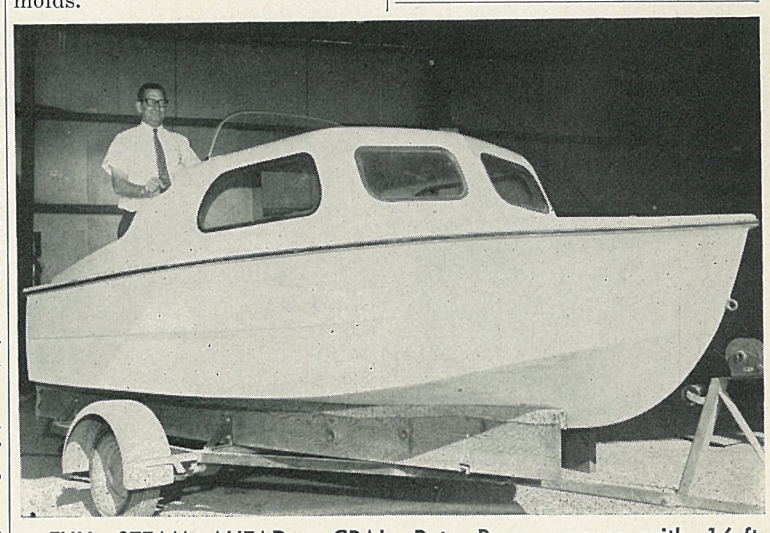
Las Vegas Bus Tour Scheduled Sept. 10-12

A few days remain for Convair people to reserve seats on the bus tour to Las Vegas over the weekend of Sept. 10-12.

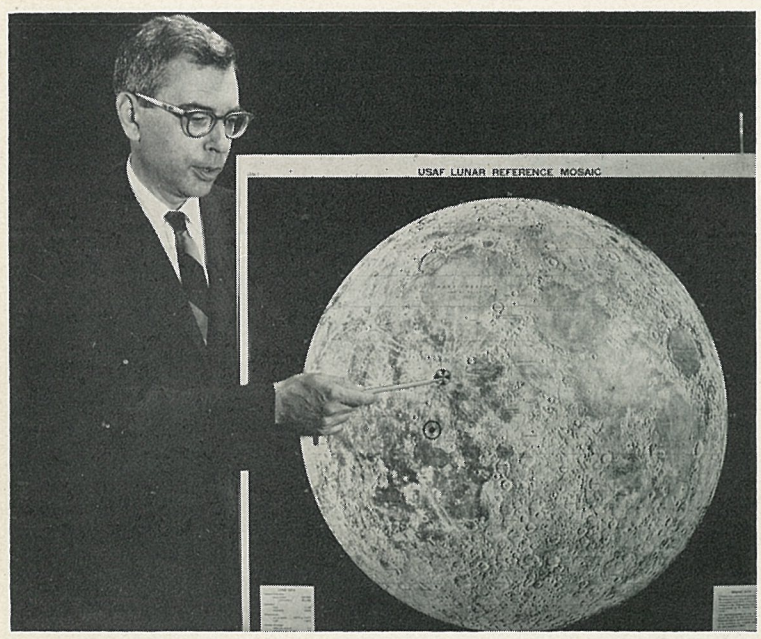
The trip costs $25 per person, including round-trip transportation by air-conditioned Greyhound bus, two nights at the downtown Mint Hotel.

Buses will leave at 5:30 p.m. Friday from CRA Clubhouse, Kearny Mesa, and return Sunday afternoon.

Reservations may be made through the CRA Clubhouse office, ext. 1111, Kearny Mesa. Payment is required upon sign-up.



FULL STEAM AHEAD — CRA's Pete Beyrer poses with 16-ft. fiber glass boat being built at Gillespie Field boat building facility which is being opened again to all Convair builders who want to join in cooperative program. Boats can be powered by either inboard or outboard motors.



REMARKABLE ACCURACY — Andrew Kalitinsky, Centaur assistant program director for engineering, points out mere 400-mile miss-distance of Surveyor spacecraft which was placed on trajectory toward "paper" moon by Atlas-Centaur Six. Circled dot represents point in space which was spacecraft target. Cross indicates where Surveyor, without using mid-course correction, would have landed, due to accuracy of AC-6 launch.

F-111's Escape Module Checked Out In Rocket Sled Runs at Holloman

The F-111 escape module is being thoroughly "checked out" in a series of rocket sled runs at Holloman AFB, New Mexico.

Tests, which began at the Air Force Missile Development Center last February with boilerplate models, are expected to continue with production models for more than a year.

A total of 35 sled runs—in addition to five runs to test the drogue parachute which stabilizes the module after ejection—have been planned to evaluate the 3,000-pound escape system.

Two massive, dual-rail rocket sleds weighing about five tons each are being used to effect speeds ranging from 700 to 1,100 miles an hour. Sleds are fired in single, double and triple stages, generating from 120,000 pounds to half a million pounds of thrust.

Each sled run will cover about 15,000 feet of the seven-mile track and be braked to a stop by the track's ingenious system of water brakes.

Designed for safe landing on either land or water, the module begins its ejection sequence with igniting of its rocket motor.

A canted nozzle, attached to the pod, propels it up and away from the aircraft. As it clears, the drogue chute and aerodynamic drag flaps on the pod's boom section are ballistically deployed. The parachute compartment door is jettisoned and the main chute opens, repositioning the module as it floats in midair. During descent, a shock absorbing system also activates itself, thus avoiding hard landing impacts.

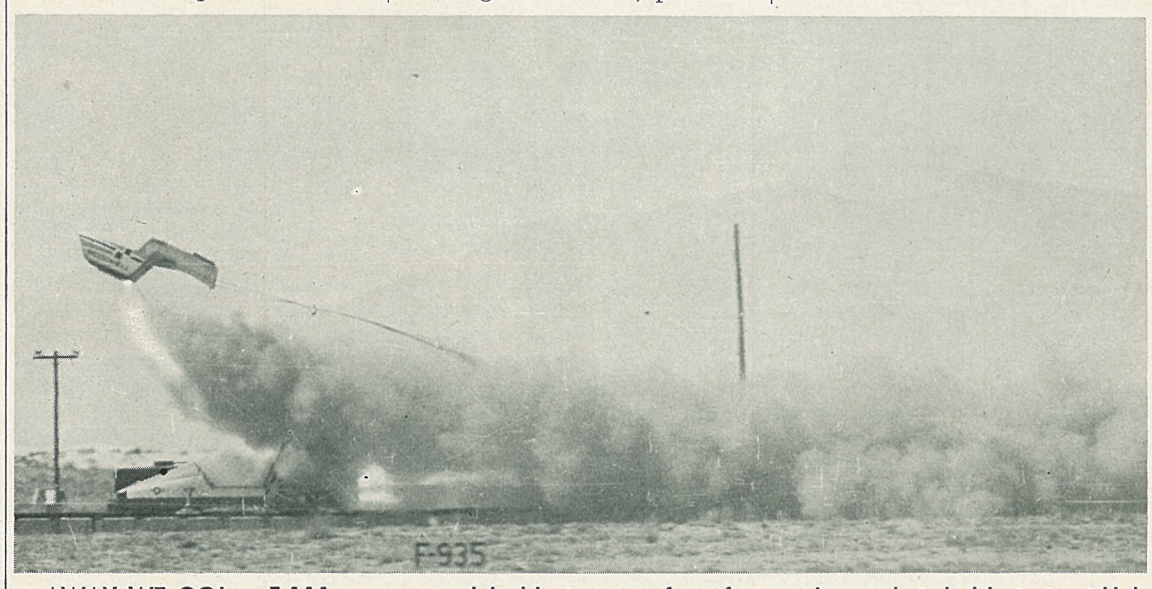
In the course of the tests, as the pod separates from the fast-traveling sled vehicle, peak altitudes in the ejection curve may be as high as 900 feet, depending on the forward speed of the sled.

According to project officers, a wide range of coverage is needed to evaluate these tests.

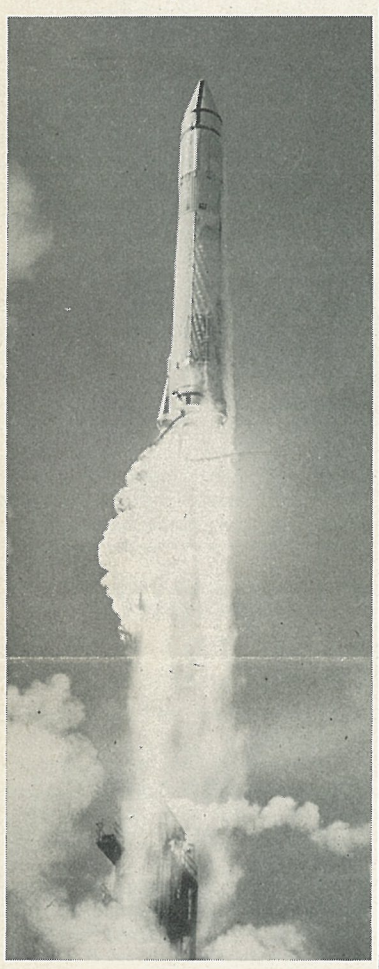
Included in such instrumentation are four 15-channel telemetry systems to monitor the module's escape performance and collect sled data.

Each run is further documented by a barrage of photo equipment, including fast ribbon-frame camera, 7 mm metric cameras, cine-theodolite units, and high-speed fixed and tracking cameras both on the sled and along the track.

Tests are under direction of Col. Lawrence H. Ballweg, Track Test Directorate, in a joint project with the McDonnell Aircraft Corp., manufacturers of the module under subcontract to GD/Fort Worth.



AWAY WE GO! — F-111 escape module blasts away from fast-moving rocket sled in tests at Holloman AFB. Extensive tests will prove crew-saving capabilities of module.



FAREWELL CAPE — Atlas-Centaur is shown lifting off launch complex at Cape Kennedy last month. It successfully injected Surveyor spacecraft model into orbit.

C-141 in Service On Cargo Runs Across Pacific

Air Force's fan-jet C-141, for which Convair is building the empennage, began regular Pacific cargo runs for Military Air Transport Service last month as the giant cargo jet entered Category III flight test.

During Category III testing the C-141 will be operated in its intended environment—doing jobs for which it was designed. A preliminary C-141 flight was made to Pacific air bases, including Hawaii, Okinawa, Japan, and Wake Island to review AF Logistics Command support requirements imposed by the test program and to survey spares and ground support equipment required by the huge Lockheed-built transport.

Convair is building C-141 tail sections under a subcontract from Lockheed-Georgia Co., prime contractor.

The 74th empennage was slated to move out of San Diego today (Sept. 1) bound for Marietta, Ga. Production rate for August, September, and October is eight empennages a month.

Ehricke, Pengelley To Deliver Papers

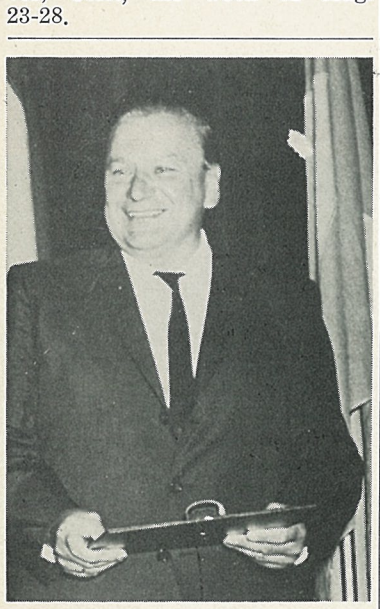
Kraft Ehricke, Convair director of advanced studies, and C. Desmond Pengelley, senior group engineer, are on the programs of two American Institute of Aeronautics and Astronautics meetings this month.

Ehricke will deliver a paper, "Interplanetary Maneuvers in Manned Helionautical Missions," at the AIAA/ION Astrodynamics Specialist Conference in Monterey, Calif., Sept. 16-17.

Pengelley was scheduled to talk on "Preliminary Survey of Dynamic Stability of a 'Tassel Concept' Space Station," at the AIAA Symposium on Structural Dynamics and Aeroelasticity at the Massachusetts Institute of Technology Aug. 30-Sept. 1.

SCIENTIST ATTENDS ANNUAL SEMINAR

Dr. C. T. Yang, Convair senior staff scientist in materials and processes, attended the second annual seminar, Frontier of Fracture Theory, sponsored by Universal Technology Corp., at Denver, Colo., the week of Aug. 23-28.



A FELLOW — Kraft A. Ehricke, Convair's director of advanced studies, has been named a fellow of American Institute of Aeronautics and Astronautics. He is shown at San Francisco honors convocation.

Dr. Charles Herzfeld Tours Convair Plants

Dr. Charles Herzfeld, director of the Advanced Research Projects Agency, visited Convair's Kearny Mesa and Lindbergh Field plants Aug. 19. He was hosted by W. H. Patterson, Convair director of planning, and reviewed Convair aircraft, space, and research and development programs.

Briefings included the Charger, Convair's ducted fan systems, Apollo extension system, and reusable boosters.

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.

Fort Worth 'Growing Own' Nucleus That Can 'Talk' Machine Language

A machine taking orders from magnetic tape carved out the first production airplane part at GD/Fort Worth in 1957.

At the time, GD/FW had one "automatic" milling machine and two numerical control programmers—trained individuals capable of "talking" the machine's computer "language."

Today, many such automatic cutting machines are turning out precision F-111 parts. And scores of programmers are "feeding" them. Therein lies a "problem."

Automatic, tape-fed cutting machines continue to appear on the industrial scene in ever-increasing quantities. This has resulted—industry-wide—in a shortage of parts programmers.

GD/Fort Worth's answer to the shortage has been a fast-paced training program. "We're growing our own," says H. R. Montgomery, supervisor tool planning.

Ten recruits—one from in-plant—are currently enrolled in the department's five-week program. This is the third such class.

"Currently, we have 24 programmers," says Montgomery. "But we must constantly update skills and train new people in order to keep a good, sharp core of such people."

What kinds of trainees are sought? "Preferably persons with two or three years of college in engineering courses," Montgomery says. "They should have math through analytical geometry, and a knowledge of mechanical drawing and blueprint reading."

Experience in machine shop operations, tool design and manufacturing, and composition data processing are all listed as "very helpful." "But it's not required," Montgomery adds.

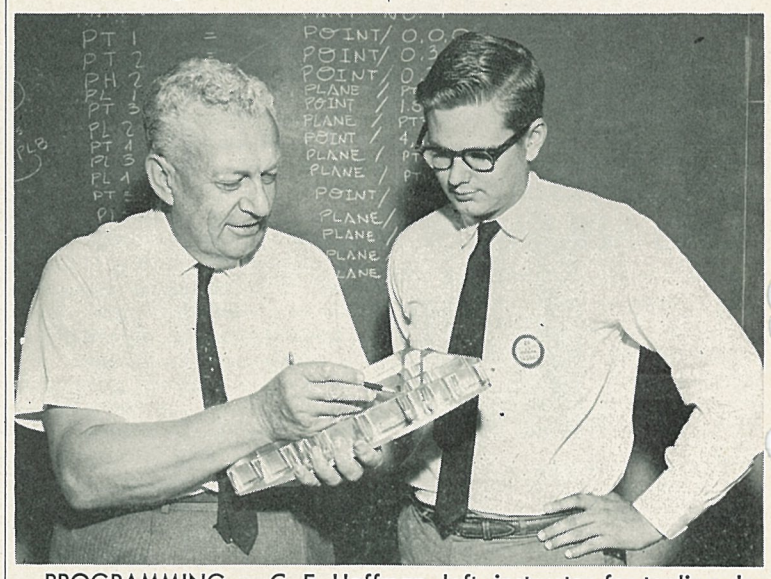
Charles Hoffman, Dept. 24-0 numerical control programmer, is instructor of the training course. He's a former school teacher.

Trainees learn about the "automatic" machines—skin mills, machine tools, and others—and the language these machines understand. It's called APT (Automatically Programmed Tools), a mixture of English-like words and symbols which guide the machine with "absolute accuracy."

The magnetic or mylar tape which directs the machines, of course, results from deducing a "staggering amount of mathematical data." Programmers must become quite expert at working with 1401 and 7090 computers.

The numerical control programmer is a product of the times, and he is almost certain to be needed in even greater numbers in the future.

For this reason, tooling's training program may continue for some while.



PROGRAMMING — C. E. Hoffman, left, instructor for tooling department's training program in numerical control programming, explains point to F. M. Addington, Dept. 24, one of 10 students enrolled in current course.

Sperry Rand Division Buys Stromberg-Carlson Consoles

Stromberg-Carlson Corp. has sold five computer display consoles to the UNIVAC Defense Systems Division of Sperry Rand Corp., Carl V. Shannon, general manager of the Data Products division at San Diego, announced last week.

The equipment will be used in the Army Operations Center System in the Pentagon, Washington, D. C.

The consoles, built by S-C's Data Products, are S-C 1090 Direct View Displays containing all solid-state circuitry, a keyboard entry device, data entry cursor, and hard copy printer. They will be used as individual displays in the command and control center.

Two consoles will provide a means of system interrogation and real-time response to supplement prepared briefing material. Two other units are to be used by representatives of the Army Chief of Staff and the Secretary of the Army. The fifth unit will be located in the computer center where it will be used in providing output displays for the large-screen projector.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 19 PUBLISHED BY GENERAL DYNAMICS CORPORATION 52 Wednesday, September 15, 1965

Sept. 24 Is Deadline To Join Savings Plan

Eligible employes wishing to join the GD Savings and Stock Investment Plan starting Oct. 1, must submit an application to employe services by Sept. 24.

Employes who fail to submit an application by the Sept. 24 deadline will not be able to join the Plan until Jan. 1, 1966.

GE Reps Inquire Into Capabilities

Six representatives of the Defense Programs Division of General Electric Co. visited Convair last Friday for an exchange of information relative to General Dynamics' interest in, and capabilities for assisting in the Voyager Lander program.

They were R. T. Martin, manager of Voyager Lander sales; R. E. Fries, design engineering representative; W. S. McKelvie, manufacturing representative; J. Malone, sub-contracting specialist; G. R. DeLong, manufacturing representative; and B. R. Knollin, San Diego representative.

The General Electric party was welcomed, heard presentations, and lunched at the Kearny Mesa plant and was taken on a tour of AF Plant 19.



BUSY CHARGER — NASA pilot Robert Innis prepares to take off in Convair's Charger during recent 10-hour flight evaluation of plane's short takeoff and landing characteristics. Innis took craft through 19 takeoffs and landings.

Charger Kept Busy On NASA Test Hops

Convair's prototype Charger had its busiest week the end of August when it did double duty in the air for a NASA evaluation of its short takeoff and landing characteristics and for Convair's own flight test program.

It made seven NASA flights and 10 Convair flights for a total flying time of 17 hours and 22 minutes from Aug. 23 through 28.

Robert Innis, research pilot from NASA's Ames Research Center, Mountain View, Calif., first non-Convair pilot to fly the Charger, altogether logged nine flights during the NASA evaluation of the plane's STOL characteristics. The evaluation began Aug. 16 and ended Aug. 27.

During nine flight operations Pilot Innis made 19 short takeoffs and landings. To fully evaluate Charger's handling qualities in the STOL mode he used different climb angles and climb-out speeds for the takeoffs and various rates of descent for the landings.

NASA contracted with General Dynamics for flying time on the Charger as part of its program to define handling quality requirements for the entire class of short takeoff and landing aircraft.

Convair's Charger is this country's first airplane specifically designed for tactical support of troops in forward battle zones. It is especially suitable for vital surveillance and reconnaissance missions to support ground forces.

Since its maiden flight in November of 1964 it had made 161 flights for a total of 157 hours and 46 minutes up to the end of August.

AF Officers Report For Duty In 'Education With Industry'

Two Air Force officers last week began a 10-month course in industrial planning and procurement at the Convair Kearny Mesa plant under the Air Force Institute of Technology's "Education with Industry" program.

They are Capt. Harry L. Arthur, who has been flying as navigator in Convair-built B-58s since 1961 from Bunker Hill AFB, Ind., and Capt. Frank M. Hilbish, who has been piloting C-124 Globemasters since 1962 from Hill AFB, Utah.

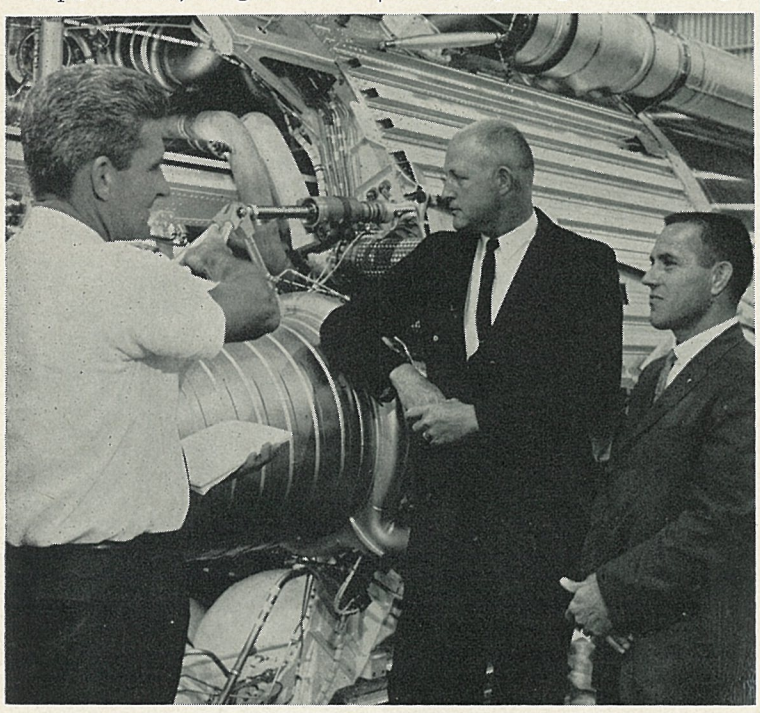
The two career officers will spend about six weeks in general orientation, 10 weeks in department visitations and 18 weeks in "on the job" work assignments. Their performance as management trainees will be evaluated by department heads.

Capt. Arthur, a graduate of Indiana University, attended navigator school at Connolly AFB, Texas, and has had previous assignments at Barksdale AFB, La., and Dill AFB, Fla.

Capt. Hilbish, a graduate of the University of Virginia, served in the Air Force as an enlisted man before becoming an aviation cadet at Ellington AFB, Tex., taking navigator training at Mather AFB, Calif., and pilot training at Stallings AFB, N. C.

He previously had duty flying C-124s from Dover AFB, Del., and Hickam AFB, Hawaii.

The training program for the two officers is being coordinated by educational services (Dept. 130-3) at Kearny Mesa. The two captains may be assigned to key administrative positions in the Air Force aerospace program after completing their training.



CHECKOUT—C. C. Baker, left, Convair assistant checkout area foreman, briefs Capt. Frank M. Hilbish, center, and Capt. Harry Arthur on work being performed on SLV-3. Capts. Hilbish and Arthur will spend 10 months at Convair in AF "Education with Industry" program.

Ideas Pay Off On Paperwork

"Operation Underbrush" ideas continue to pay off in Employe Suggestion awards at Convair, and there is a fertile field for more payoffs.

Both hourly and salaried suggesters are entitled to receive 10 per cent of the annual savings to the company, up to $5,000 maximum.

J. H. Johnson, manager of management systems, said it is easier to file an unneeded piece of paperwork than it is to evaluate and really determine if it should be retained.

"It's the unnecessary paperwork and extra copies that fill file cabinets with 'underbrush,'" he said.

Johnson pointed out that it isn't the cost of paper itself that is of prime concern but the cost of unnecessary warehousing and

(Continued on Page 2)

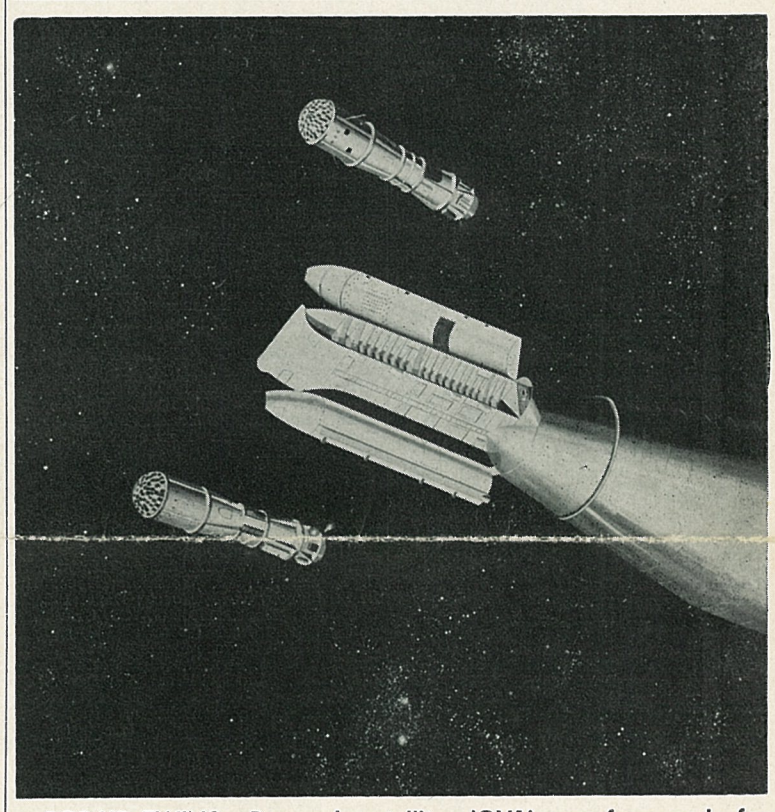
NASA Announces Contract Talks

NASA announced last week that it will negotiate with Convair and with the Aeronautical Division of Honeywell, Inc., for contracts totaling about $50 million for five flight stages and guidance systems for use in Surveyor lunar landing missions.

Plans call for high-energy Centaur stages to be used in Atlas-Centaur launch vehicles being developed by Convair for NASA's Lewis Research Center to soft-land Surveyor spacecraft on the moon. The spacecraft will conduct lunar surface studies in support of later manned missions.

Under terms of the proposed contract Convair will manufacture, test, erect, and launch the Atlas-Centaur vehicle. Honeywell is developing all inertial guidance systems for Centaur under a separate contract with Lewis Research Center.

The Atlas-Centaur successfully completed the nation's first space flight with liquid hydrogen fuel in 1963. Following the successful flight of Atlas-Centaur 6 on Aug. 11, preparations are now under way for a Surveyor launch later this year carrying an engineering model of the Surveyor spacecraft.



POP-UP TWINS—Research satellites (OV1) pop from pods for special space experiments in this artist's conception. Launch aboard an Atlas is scheduled this week at Vandenberg AFB.

Research Satellite Scheduled For Ride Aboard Atlas 34D

A Convair-built OV1 aerospace satellite is tentatively scheduled to be launched tomorrow down the Air Force Western Test Range from Vandenberg AFB.

Although the OV1 is designed to carry twin research satellites, only one will be launched in the upcoming shot. A model representing the weight and mass of the satellite will occupy the second portion of the protective pod.

Atlas 34D will be the launch vehicle and the ABRES-B complex, Pad 3, will serve as the launch site at Vandenberg.

The satellite is to separate from its propulsion module in orbit 13.9 minutes after liftoff and is to operate in orbit several months during which its telemetry system is to transmit data to ground stations at Cape Kennedy, Antigua, Ascension Island and Hawaii.

'Bravo' Rides Out Hurricane With Ease, Instrumentation Unaffected by Storm

Convair's oceanographic prototype buoy, "Bravo," rode out Hurricane Betsy, which swept the Florida coast last week with terrific force, with all instrumentation working perfectly and without damage, according to preliminary reports.

Robert Devereux, Convair's oceanographic program manager, said that the buoy was well within the storm area of Betsy when hurricane winds struck the mainland early Wednesday (Sept. 8) morning. Wind velocities up to 88 miles an hour were telemetered from the buoy at 1:35 a.m. Eastern Standard time. At 4:10 a.m. (EST), when the storm center was at the closest point, 60 miles south of Miami, 84 mph winds were registered by the buoy's instrumentation. Barometric pressure was 29.17 at Hollywood, Fla., nearest point to the buoy's offshore location. Minimum pressure observed at any time during the storm was 28.25.

Louis Scott and John Thayer, Convair team members at the buoy site, planned an inspection trip to the buoy, 14 miles off the coast in the Gulf Stream, as soon as the storm subsided. Visibility was cut to less than a mile during and after the storm.

The buoy, which was developed by Convair for the Office of Naval Research, will be left on its present station until later this fall to take advantage of any other storms which may blow up during the remainder of the hurricane season.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Sept. 16 and Sept. 30.

Thirty-year: Dept. 131-4, H. E. Pasek; Dept. 401-1, John Woodhead; Dept. 509-1, A. R. Sharp; Dept. 532-1, W. H. Fink; Dept. 683-1, D. B. Suggs

Twenty-five year: Dept. 001-0, B. E. Goss Jr.; Dept. 015-0, H. W. Brightwell; Dept. 031-0, W. F. Hindes; Dept. 041-0, J. R. Hernandez; Dept. 056-0, O. W. Harper; Dept. 071-0, H. J. Hildebrand; Dept. 170-1, M. H. John; Dept. 195-4, C. O. Rhea; Dept. 196-0, H. A. Kayes; Dept. 210-4, B. E. Cavin; Dept. 250-1, C. W. Carlson; Dept. 251-1, S. J. Hawkins.

Dept. 400-4, S. W. Kellogg; Dept. 401, Florian Hacker, M. P. Rebeles; Dept. 403-1, A. J. Kent; Dept. 420, N. B. Powell Jr., Charles Renkke; Dept. 508-0, A. P. Gonzalez; Dept. 509-1, John Wasem; Dept. 511-4, W. O. Johnston; Dept. 533-1, W. J. Darracq; Dept. 545-2, R. R. Parga Jr.; Dept. 583-1, W. V. Carter; Dept. 759-0, D. A. Hottell; Dept. 761-0, E. L. Johnson; Dept. 763-0, L. L. Ripley; Dept. 780-4, R. C. Neaves; Dept. 836-1, T. F. Jones Jr.; Dept. 972-0, F. E. Smalley; Dept. 978-3, T. N. Moraga.

Twenty-year: Dept. 015-0, Chester Czekala; Dept. 019-0, J. B. Holland; Dept. 576-1, R. B. Buchanan.

Fifteen-year: Dept. 015-0, D. D. Davidson, G. J. Kureri; Dept. 149-2, E. N. Costello; Dept. 192-0, F. W. Sterling; Dept. 193-3, W. B. Brooks; Dept. 195-0, D. P. Wright Jr.; Dept. 223-0, Emmett Capossere; Dept. 250-5, E. J. Blanco, U. C. Martinez; Dept. 403-1, A. L. Meyer; Dept. 505-0, C. B. J. Dutton; Dept. 512-2, Sucher Gutherz; Dept. 532-2, R. T. Kubota; Dept. 543-2, J. L. Hanson; Dept. 544-5, J. F. Dzialowy.

Dept. 553-2, Azael Uranga; Dept. 575-4, J. W. Knebel; Dept. 578, R. G. Camp Jr.; Edward Schiff; Dept. 587-1, L. F. Mastny; Dept. 687-2, J. L. Lothringer; Dept. 733-0, Delfina C. Blanco; Dept. 759-0, L. C. Palmer; Dept. 763-0, Jack Camfferman, Pascual Gasca; Dept. 780-1, J. A. Cady; Dept. 819-0, B. H. Garrett; Dept. 838-3, D. P. Angle; Dept. 839-2, Lois W. McHugh; Dept. 972-0, R. D. Harvey; Dept. 974, P. E. Heironimus, T. A. Hutchinson; Dept. 976-3, C. B. Wilhelm.

Ten-year: Dept. 015-0, Ralph Danner Jr.; Dept. 113-0, L. J. Hayes, A. D. Rinaldi; Dept. 132-1, P. D. Bitts; Dept. 141-0, Margaret H. Bates; Dept. 142-4, H. B. Scott; Dept. 145-1, G. L. Stiehl Jr.; Dept. 146-5, N. T. Keith; Dept. 170, Ulysses Eatmon, V. F. Mendoza Jr., R. A. Wallace; Dept. 251-1, M. P. Quijas; Dept. 403-3, T. L. Cross; Dept. 507-0, Harriett M. Fisher; Dept. 532-0, J. E. Stumm; Dept. 541-0, S. J. McMillan; Dept. 542-0, P. A. Moallankamp; Dept. 544-3, D. E. Williams.

Dept. 551, B. V. Bodnieks, T. A. Lukase; Dept. 574-3, W. M. Addington Jr.; Dept. 576-4, Gail R. Casteel (due Sept. 6); Dept. 584-1, D. S. Oesterle; Dept. 595-0, Jesse Laguna; Dept. 756-0, G. C. Bertrand; Dept. 761-0, J. J. Marten; Dept. 780-1, W. A. Gray; Dept. 816-4, F. G. Blakefield; Dept. 835-6, R. C. Hickman; Dept. 845-0, D. E. Flanders; Dept. 953-3, D. J. Bault; Dept. 960-0, Andrew Kalitinsky; Dept. 963-4, D. H. Dansby, D. G. Ferrell, H. G. Yett; Dept. 967-3, R. D. Imel, C. L. Tonar; Dept. 972-0, C. M. Ray; Dept. 974-4, C E. Pinnell; Dept. 976-3, T. L. Tucker; Dept. 978-1, R. E. Hannel; Dept. 979-1, J. E. Hart.

ELECTRONICS

Service emblems due during the month of Sept.

Twenty-year: Dept. 4077, B. J. Early.

Fifteen-year: Dept. 4074, N. G. Neault; Dept. 5078, Christine C. Thomas; Dept. 6853, E. S. Langworthy.

Ten-year: Dept. 5078, R. F. Martin; Dept. 6859, D. F. Nichols; Dept. 6867, W. E. Vincent; Dept. 6869, M. J. Martinell Jr.; Dept. 6988, J. D. Cook; Dept. 7083, John Murray.

STOMBERG-CARLSON

Fifteen-year: Dept. 8738, J. D. Banks.

Retirements

CONVAIR

BRENNAN—Arthur E., Dept. 031. Seniority date Nov. 18, 1925, retired July 30.

CHAPMAN—Joseph D., Dept. 62-2. Seniority date Feb. 17, 1953, retired Aug. 11.

COZIAHR—Michael W., Dept. 451-0. Seniority date Oct. 22, 1953, retired April 4.

GRAY—Paul S., Dept. 146-4. Seniority date Oct. 8, 1958, retired Jan. 5.

GREESON—Albert B., Dept. 6. Seniority date June 30, 1953, retired May 17.

GRIFFITHS—Wilbur S., Dept. 250-5. Seniority date Dec. 7, 1956, retired Feb. 14.

JOHNSON—Robert, Dept. 25-2. Seniority date March 8, 1951, retired August 6.

MacDONALD—John F., Dept. 401-7. Seniority date Oct. 10, 1946, retired July 30.

MICHAELIS—Max C., Dept. 452-0. Seniority date July 18, 1958, retired Jan. 10.

SEMKE—Ralph S., Dept. 576-3. Seniority date Aug. 3, 1959, retired June 20.

SHAFFER—George A., Dept. 3-1. Seniority date March 20, 1956, retired May 29.

STRACHAN—John P., Dept. 031. Seniority date Dec. 10, 1930, retired July 30.

Births

CONVAIR

DE BLANC—Daughter, Karen Lisa, 7 lbs., 11 oz., born Aug. 26 to Mr. and Mrs. John De Blanc, Dept. 126-0.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 32, Mail Zone 1-320, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, Sept. 20, 8-10 a.m.; Monday, Oct. 4, 8-10 a.m., Room 7, Bldg. 17, Kearny Mesa. Lindbergh Field, ext. 491. One hour, Tuesday, Sept. 28, first shift, 8 a.m.; second shift, 4:30 p.m., Bldg. 14 auditorium. Tuesday, Oct. 5, Dept. 300 personnel, first shift, 7 a.m.; second shift, 3:30 p.m., Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1931, Kearny Mesa, 40 hrs. Sept. 13-24, 8 a.m. to noon, CRA building. Enrollment closed.

PRODUCTION IMPROVEMENT—Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 4:30-5:30 p.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m., Room 10, Bdg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS—H. C. Neel. 16 hours; Tuesday through Friday, 1:30-3:30 p.m., for 8 weeks; Room 6, Bldg. 14, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECK-OUT—Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours; Monday through Thursday, 3:15-5:15 p.m. Sept. 13 to Oct. 31. Four weeks on Fortran. Bldg. 17, Kearny Mesa.

ENGINEERING FORTRAN (BASIC)—Marvin Bauman, 34 hours; 7-8 a.m.; Monday through Thursday. Ends Sept. 22. SLV Conference Room 3, Bldg. 33, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

PROFESSIONAL SECRETARIAL DEVELOPMENT (Phase I)—Dennis Suchecki, ext. 1931, Kearny Mesa. 65 hours; Tuesdays, 5:30-8 p.m.; Sept. 14-April 5, 1966. Presentation Room, Bldg. 2, Kearny Mesa. For registration, call Martha, ext. 1931, Kearny Mesa.

CRYOGENIC ENGINEERING — Karl Leonhard, ext. 4583, Kearny Mesa, 48 hours; Tuesdays, 5-8 p.m., Sept. 14-Dec. 28, Room 7, Bldg. 17, Kearny Mesa. Prerequisites: minimum of 3 yrs. toward BS degree or 5 yrs. applied engineering experience.

ENGINEERING FORTRAN IV (BASIC)—James Dobrei, IBM, 32 hours; 5-7 p.m.; Tuesdays and Thursdays. Ends Sept. 21. Room 2, Bldg. 17, Kearny Mesa. Enrollment closed. For information call Warren Newton, ext. 2486, Kearny Mesa.

Awards

CONVAIR

Employe Suggestion awards approved for the reporting period ending Aug. 25.

Dept. 001, W. L. Dueber, H. Mondy, C. B. Reid, J. W. Weisman; Dept. 015, S. S. Jenson, V. J. Rocco; Dept. 102, E. Fountain; Dept. 119, G. G. Grantham and H. R. Roeser (joint award); Dept. 123, C. D. Mengason; Dept. 125, J. L. Martin; Dept. 130, J. Vincellette; Dept. 141, R. G. Lindsey, F. Mejia; Dept. 143, J. S. Adams, J. A. George, D. C. X. Gonzalez, H. A. Jackson, F. M. Lipe, C. L. Marks, H. D. Sterling (first installment); Dept 191, V. R. Pieters (first installment); Dept. 223, A. F. DiJoseph and A. J. Nybo (joint award, first installment); Dept. 225, W. W. West; Dept. 250, H. L. Boyd, C J. Kruk (first installment), R. B. Mason, M. E. Nigolet, J. T. Taylor Jr.; Dept. 336, C. C. Claybrook.

Dept. 401, H. W. Riley; Dept. 420, I. G. Rooder (first installment); Dept. 451, J. J. Quarles; Dept. 552, D. E. Hays; Dept. 574, C. W. Nordby and W. F. Pfender (joint award, first installment); Dept. 576, A. E. McCoy; Dept. 642, A. D. Jorgensen (final installment); Dept. 665, R. C. Zuranski; Dept. 684, J. M. Hazel; Dept. 733, C. W. Maxfield; Dept. 756, H. O. Kuntze (first installment); Dept. 759, C. J. Eskew (first installment); Dept. 763, W. G. Schultz (first installment), J. D. Willingham; Dept. 780, J. S. Harker; Dept. 819, H. W. Wilson; Dept. 832, Z. M. Johnson (first installment); Dept. 973, A. L. Hatcher, D. J. Melvin, J. R. Mitchem (two awards), E. W. Pagel; Dept. 979, K. C. White.

Cost Improvement Proposal approved during the same period.

Dept. 759, C. J. Eskew.

Invention Disclosures

CONVAIR

ARCE—D. D., Dept. 759-0, and R. L. WITT, Dept. 979-4. T. V. Lead-in Stowage Unit.

KACHIGAN—K., Dept. 966-0, and F. X. MARSHALL, Dept. 964-0. Caution Warning System for Moving Vehicles.

LYNCH—R. A., Dept. 581-5. Removabe Heat Shield for Lifting Re-Entry Vehicles.

NELSON—M. and P. M. SCHROEDER JR., Dept. 581-2. Separation System—Upper Stage Adapter from Reusable Rocket.

THOMAS—D. R., Dept. 696-2. Atlas Recoverable Booster System.

Personals

CONVAIR

We wish to thank all of our Convair friends for their sympathy and kind thoughts at the death of our husband and father, Melvin Burkett.

Katie L. Burkett (Dept. 976-3) and son, Lyle.

* * *

We wish to thank all of our Convair friends at both Plant 19 and Kearny Mesa plant for the flowers, donations, and expressions of sympathy at the death of Carl Knaffla, formerly of Dept. 292, Plant 19.

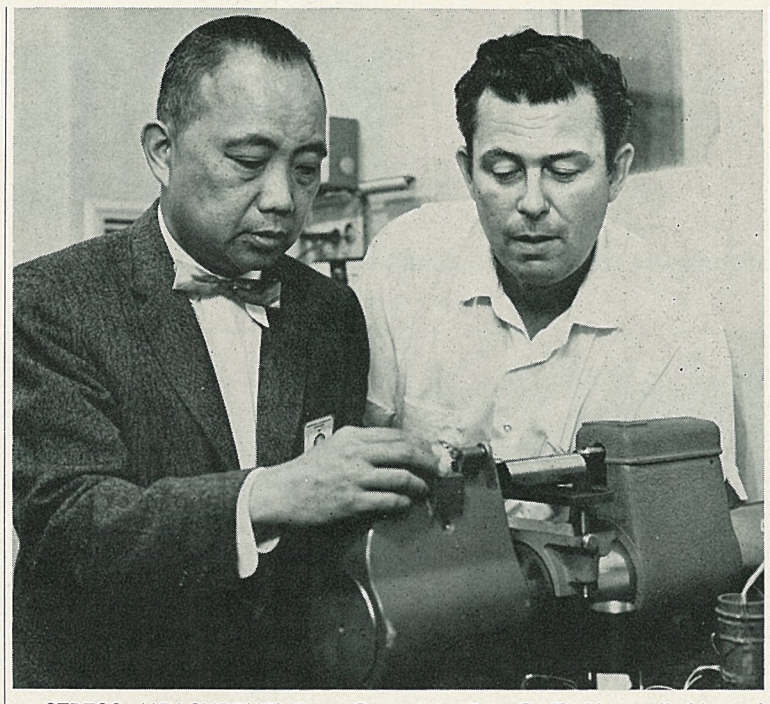
Mrs. Carl Knaffla and Family.

* * *

We gratefully acknowledge and thank you for your kind expressions of sympathy at the death of our husband and father, W. J. Preber (Dept. 967-2).

Mary Preber and sons.

When telephoning, never mind the weather. Get to the point. Telephone time costs money.



STRESS MEASUREMENT — Convair's Dr. C. T. Yang (left) and Charles Maikish use supermicrometer to measure length of alloy steel specimen after machining cut during initial stages of study of residual stresses under subcontract from Illinois Institute of Technology's Research Institute.

Convair Conducting Research In Stress on Machined Parts

Convair division is conducting stress studies in the first phase of a subcontract for Illinois Institute of Technology's Research Institute, which will extend over the next year.

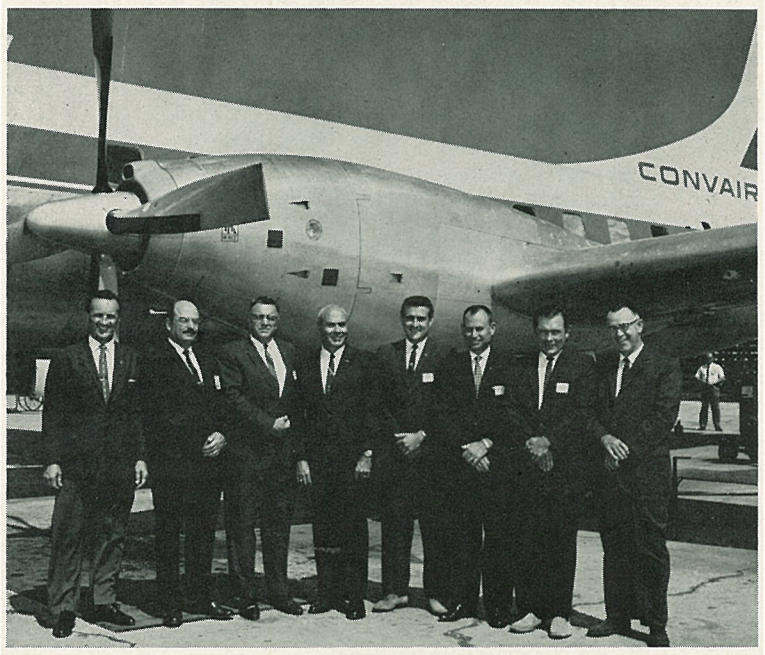
The Institute is charged with development of a nondestructive testing program for the analysis and control of residual machining stresses for the Air Force Systems Command's AF Materials Laboratory, Research and Technology Division, Wright-Patterson AFB, Ohio.

Convair's share of the task will be the destructive determination of residual stress on machined parts. Study results will be used as a base for establishing nondestructive testing methods.

The GD division will produce 916 machined test specimens of various materials—aluminum alloy, chromium steel, molybdenum, titanium alloy. These specimens will be machined by lathe turning and grinding to determine the different stresses induced during machining. Information gathered during testing will provide an understanding and control of residual stresses for proper design and fabrication techniques.

Of the over 900 machined parts to be produced at Convair during the study, 90 breadboard test specimens will be sent to IITRI in later stages of the program.

Dr. Charles T. Yang, senior staff scientist in Convair's materials and processes department, is principal investigator. He is assisted by Charles Maikish, materials and processes engineer, and supported by Convair laboratory and production functions.



600 REVIEW — Snapped beside Convair 600 during recent visit to Convair division are Air Line Pilots Association representatives T. G. Linnert (third from left), Captains Leo Rankin, Phillip Hutchinson, W. R. Elliott, W. A. Whitlock. Convair men are R. T. LeVine, pilot (far left); Mel Clause, commercial customer requirements; and G. D. Clark, commercial sales (far right).

Committee of Air Line Pilots Reviews Convair 600 Aircraft Modification

An Air Line Pilots Association committee reviewed the Convair 600 modification program and technical details of the new aircraft version during a one-day visit to the San Diego-located division last month.

T. G. Linnert, director of ALPA engineering and air safety department, headed the visiting group. Others were W. R. Elliott of Trans-Texas Airways; Phillip Hutchinson, Caribair; Leo Rankin, Hawaiian Airlines; W. A. Whitlock, Central Airlines.

The pilot representatives from customer airlines discussed the handling characteristics and performance of the 240D prototype with Convair flight crew members, R. T. "Lindy" LeVine, pilot, and Loren Pilling, flight engineer. They also saw the 240D in flight.

Convair men taking part in briefings during the day were R. R. Hoover, A. J. Savard, R. L. Runnalls, W. H. Lindsay, G. D. Clark, and Mel Clause.

Deaths

CAPE KENNEDY

FRYE—Homer M. Jr., Dept. 505-2. Killed Sept. 3 in an automobile accident. Survived by his wife, Doreen E.

CONVAIR

MILLER—Theodore L., Dept. 976. Died Aug. 15. Survived by wife, Ruth H.

Reserves Offered Variety of Classes In Naval Program

General Dynamics men who are reserve officers in any branch of the service, whether affiliated with a unit or not, will have a chance to go back to school with the opening of the fall semester of the Naval Reserve Officers School (NROS 11-2).

Although opening session was held last week, registration still will be accepted tomorrow (Sept. 16) and next Thursday (Sept. 23) at 7 p.m., at the Naval Reserve Training Center, Harbor Drive and Lowell St.

Job-related courses offered this fall place emphasis on professional development, personal growth and achievement. College level classes cover a wide range of subjects from oceanography to national strategy in the cold war. Of especial significance to General Dynamics people is a course in PERT (Program Evaluation Review Technique).

Ross A. Evans (Cdr., USNR), manager of personnel administration at Convair, is commanding officer. Other General Dynamics men on the NROS 11-2 staff and faculty are Donald P. Germeraad (Capt., USNR), Gerald D. Schmidt (Col., USMCR), Richard G. Wilson (Cdr., USNR), R. G. Stoklosa (LCdr., USNR), and Emory W. Thurston Jr. (LCdr., USNR), all of Convair; and George T. Schnurer (Lt. USNR), of General Atomic.

Classes are held evenings two hours a week for 40 weeks at five San Diego County locations: SD Reserve Training Center; Grossmont High School; Hilltop High School, Chula Vista; Coronado High School; and Palomar College, San Marcos.

Ideas Pay Off On Paperwork

(Continued from Page 1)

distribution, the employe's time in writing or printing the paper, handling through the mails, maintenance of security control and final disposition.

As an example, if the paper used by one Convair department—data processing—during an average month was cut into 12-inch widths and placed end to end, it would stretch 1,215 miles. That is as great as the distance from San Diego to Denver.

Johnson hopes part of this "paper distance" can be reduced through new Employe Suggestions.

As other means of cutting down on paper processing costs, he suggests that all Convair employes write as to-the-point as possible and substitute in-plant telephone calls for letter or memo writing when practicable.

Typical of Operation Underbrush-type Employe Suggestions were two that won awards last week for C. H. Janes Jr., a flight test engineer at Eastern Test Range, Dept. 979, and Helen Medeiros, a secretary in Dept. 802 at Kearny Mesa.

Janes' suggestion resulted in elimination of procedure change authorization sheets from test procedure requirements. A copy of the test procedure as corrected by the responsible systems engineer now serves as evidence of the change. This resulted in a savings of $516 in the first year of use and Janes received $51.60 for the idea.

Mrs. Medeiros' idea resulted in elimination of one of two documents that delegate contract execution authority. This will save the company $121 a year and earned Mrs. Medeiros $12.10.

Salvage Schedule For Convair Set

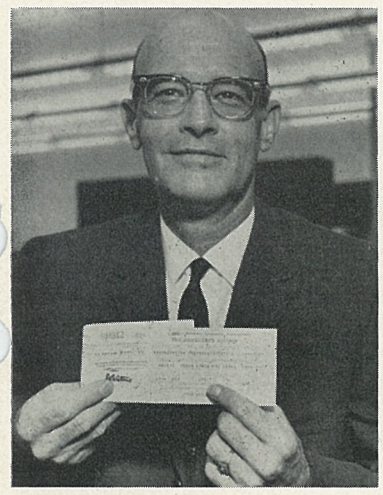
Schedule for employe sales at Convair salvage yards for the next four weeks is:

Kearny Mesa—Sept. 18, Oct. 2.

Lindbergh Field—Sept. 25, Oct. 9.

Payroll Deduction Plan Relieves Individual of Much Bookkeeping

"Payroll deductions" for a General Dynamics employe in 1937 would have been $30. Assuming, of course, that he paid the 1 per cent in FICA (Federal Insurance Contributions Act) tax on a maximum $3,000 salary.



DEDUCTIONS — Paul Norman, payroll supervisor at Fort Worth, points to check stub, which tells "story" of payroll deductions.

The "average" GD employe of 1965 can expect a maximum deduction of $174 in FICA (Social Security) tax alone. However, this is only a small part of the total deduction. A salaried employe making $8,000 a year can expect deductions to total $1,950.

"Over the years," says Payroll Supervisor Paul Norman at Fort Worth division, "payroll deduction has evolved into a simple, easy way to save money and to take care of financial commitments such as FICA and withholding tax."

At Fort Worth, for example, an employe may authorize deduction for items such as: FICA; withholding; insurance (basic, optional, dependent, hi-limit, cash value); retirement; union dues; U.S. Savings Bonds; Con-Trib; and accounts receivable (items such as shoes, flu shots, safety glasses, tuition deduction, safety belts and special sales).

"Imagine what would happen if each employe were paid a net salary and had to take care of each deduction — every month — out of his own pocket!" Norman pointed out.

Instead, Norman and his staff "feed" all deduction data into a computer, which figures each employe's deductions instantly and "automatically."

According to Norman, a salaried employe making, say $8,000 a year, would have approximately the following deductions: FICA, $174; withholding, $772; insurance (basic, optional, dependent), $209; retirement plan, $81; U.S. Savings Bonds, $162; Con-Trib-Club contribution, $46; accounts receivable (flu shots and safety belt), $8; Management Club dues, $14; GD Savings and Stock Investment Plan, $480 (based on 6 per cent participation).

These deductions would "shrink" this particular employe's take-home pay by $1,946.

"It's important to remember that much of this money actually goes for investments," Norman points out. "And in the case of the new GD Savings and Investment Plan, the company actually adds 50 cents to every dollar stashed away by the employe."

But the fact remains: payroll deductions have increased in both number and dollars over the past few decades. And the future promises more of the same.

Next year (1966), for example, FICA deduction will be increased from 3.625 per cent on a maximum $4,800 salary to 4.2 per cent of a maximum of $6,600. This means the maximum FICA deduction will be increased from $174 to $277 in 1966.

What's more, FICA taxes will be gradually increased through 1987, when an individual will pay 5.65 per cent of a maximum of $6,600—or $372 a year.

"Most people strongly favor payroll deduction on the theory that if they don't get the money they can't spend it," Norman says.

If there did happen to be a detractor to the plan—and Norman isn't certain there is—he'd simply remind him: "What if you had to take care of all that bookkeeping yourself?"

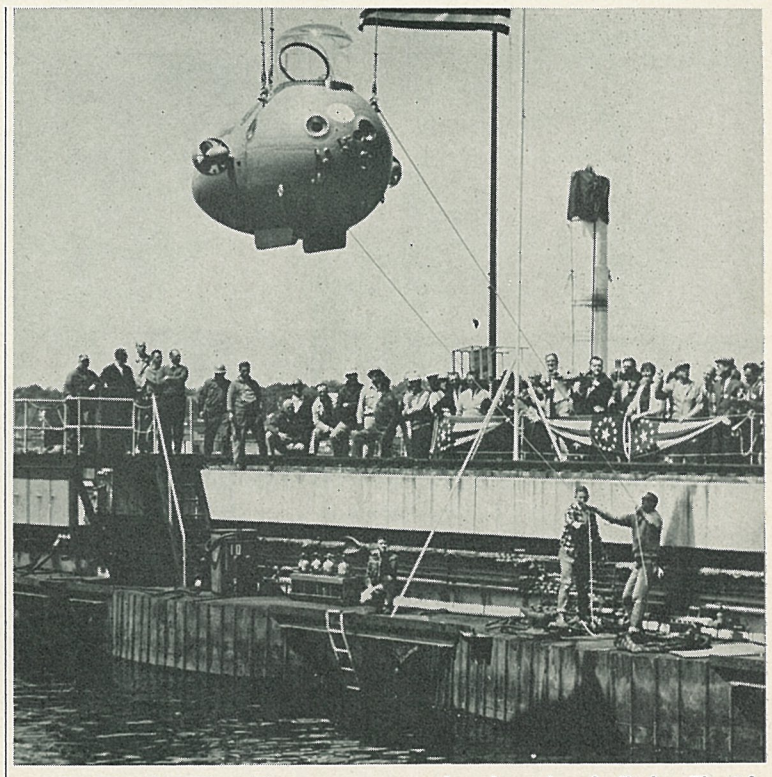
In the Future

FICA Tax to Rise in Years Ahead

The FICA tax is only one of a number of items "paid for" through payroll deductions. As shown in chart below, the tax will be increased through 1987. Note that an individual paid only 1 per cent of a maximum $3,000 when the program started in 1937.

Year	Maximum Earnings Taxable	Tax Rate	Maximum Tax*
1937-1949	$3,000	1%	$ 30.00
1950	3,000	1½%	45.00
1951-1953	3,600	1½%	54.00
1954	3,600	2%	72.00
1955-1956	4,200	2%	84.00
1957-1958	4,200	2¼%	94.50
1959	4,800	2½%	120.00
1960-1961	4,800	3%	144.00
1962	4,800	3⅛%	150.00
1963-1964	4,800	3⅝%	174.00
1965 (Current)	4,800	3.625%	174.00
1966	6,600	4.2%	277.20
1967-1968	6,600	4.4%	290.40
1969-1972	6,600	4.9%	323.40
1973-1975	6,600	5.4%	356.40
1976-1979	6,600	5.45%	359.70
1980-1986	6,600	5.55%	366.30
1987 & after	6,600	5.65%	372.90

* Payable by both employe and employer



LOWER AWAY — Two-man research submarine built by Electric Boat division, shown being lowered into water, is currently en route to Hawaii for deep dives.

Two-Man Sub, EB-Built, Will Dive Off Hawaii

Asherah, two-man research submarine owned by the University of Pennsylvania Museum, will be used by the Department of Interior's Fish and Wildlife Service, Bureau of Commercial Fisheries, to conduct biological studies off the Hawaiian Islands this month.

The Bureau will use the Electric Boat-built 17-foot undersea vehicle to study marine plant life, fish behavior, light penetrations and underwater sampling gear during a 28-day expedition.

Operations will be conducted off the Waianae coast of Oahu, about 30 miles from Honolulu, where Asherah will be taken to a depth of 600 feet.

Dr. Donald W. Strasburg, chief of the Bureau's research submarine program, will be in charge of the expedition. Operating personnel and supporting equipment will be provided by the Electric Boat division.

Both day and night operations are planned with the 8,500-pound sub with the Townsend Cromwell, the Bureau's new 158-foot surface craft, serving as mother ship. The raft Nenue, owned by the Bureau, will be used as a water-level operating platform.

The crew of the Asherah consists of an operator and observer. The vessel is propelled by two side-mounted electric motors which enable it to maneuver under water much like a helicopter does in air.

The Asherah left Groton last month by truck. The sub will be shipped from the West Coast to Hawaii and was scheduled to arrive this week.

Razor-Thin 'Shadow Shields' Promise Space Ships Won't Run Out of 'Gas'

Fort Worth division engineers have come up with just the thing to prevent a space ship from running out of "gas": razor-thin "shadow shields."

The inflatable aluminized mylar shields—which can be deployed by a pushed button in flight—are designed to protect the space vehicle's "fuel tanks" from the sun's rays.

Solar rays cause the cryogenic space ship's propellants — liquid hydrogen, cooled to minus 423 degrees F. and liquid oxygen, at minus 297 degrees F.—to boil off. Too much boil-off, of course, would leave the space ship devoid of fuel.

Previous division studies indicated that a shadow shield could be used effectively to save this boil-off. Based on these initial efforts, the division recently completed "A Study of Inflatable Shadow Shields for Cryogenic Space Vehicles" for National Aeronautics and Space Administration's Marshall Space Flight Center, Huntsville, Ala.

A spherical-shaped shield was designed for a vehicle when solar alignment of the vehicle's longitudinal axis is possible.

Made of a thin film laminate of aluminum and mylar 0.00075 inches thick, the shield is coated on one side with a vinyl-base lacquer, then folded into a lightweight container that can be jettisoned in flight.

Attitude control of the space vehicle puts the vehicle's "right" side toward the sun. Once the vehicle is aligned with solar rays, the astronaut simply pushes a button, inflating the balloon with gas so that it forms a "shadow" on the vehicle from the sun.

"Following inflation," explains L. R. Jones, study project manager, "the gas is vented, minimizing heat transfer to the space vehicle. The coated side of the shield—opposite the sun's rays—cools and becomes stiff, much as a water hose does in extremely cold weather. This keeps the shield rigid, despite expected penetration by micro-meteoroids.

"Gas-filled spheres were considered," Jones continued, "but they posed one serious problem. Once penetrated by micrometeoroids, gas would escape and the ultra-thin sphere would collapse."

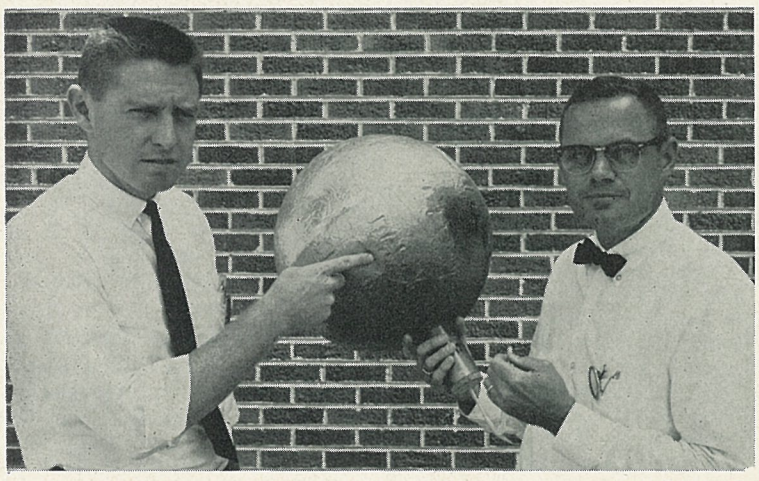
Another shield configuration was designed for use on vehicles in planetary orbit when alignment of the longitudinal axis with the sun's rays is not possible.

"This shield consists of sheets of aluminized mylar, supported by inflatable substructure," Jones said. "It can be extended from the side of the vehicle. Like the spherical shield, it intercepts, reflects, and re-radiates much of the thermal radiation that would otherwise affect the space vehicle's propellants."

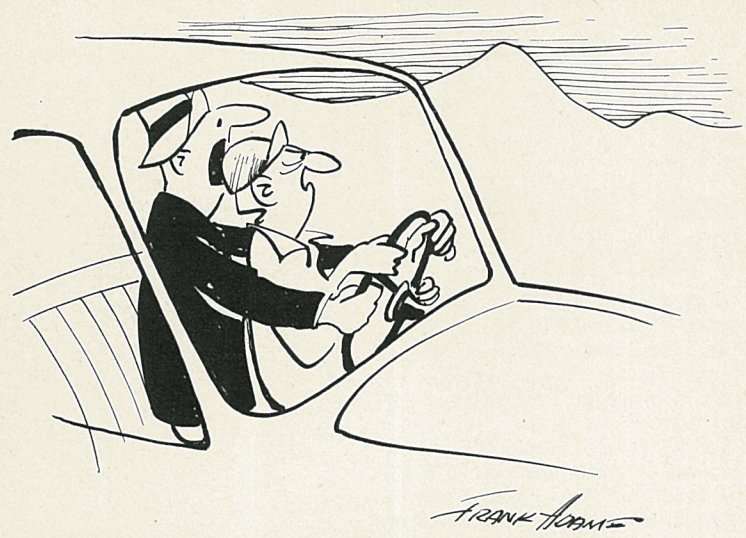
In either case, the structures can be folded and stored in small, lightweight canisters that can be attached conveniently and discarded after being used.

Structural tests of the shields were run in the High Altitude Test Laboratory. Spheres with diameters of 15, 24, and 30 inches were coated, cooled and whirled on a giant centrifuge to simulate a trip through space.

R. A. Stevens was aerothermodynamics group engineer.



SPACE BALL — L. R. Jones, left, project manager at Fort Worth, discusses coating for spherical shield — which keeps sphere rigid when deployed in space — with J. E. Marshall, project structures engineer.



"Why don't you just rest awhile and I'll drive on home . . ."

Canadair Gets Credit For VE Cut on Contract

Savings to the Federal Aviation Agency of $750,000 were accomplished recently through a value engineering approach to the manufacture of air traffic control tower cabs by Canadair, Ltd., for FAA.

"FAA Horizons" magazine reported that the request for proposals to build the cabs contained a unique provision which solicited alternate proposals. Bidders were instructed to submit changes that they thought would result in a cab of minimum overall cost and still meet design criteria.

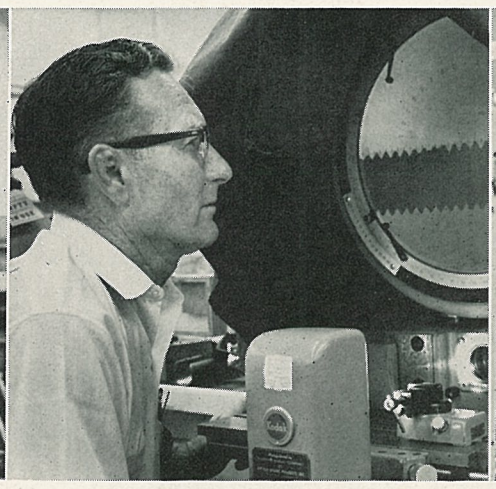
"Using this pre-bid VE approach . . . procurement and engineering personnel (of FAA), together with a team of Canadair value engineers, were able to obtain a contract price 32 per cent lower than the lowest bid price for the standard design," the magazine reported.

"Although the size of the savings obtained through the pre-award VE effort might indicate further cost reductions were unlikely, a provision for additional cost reduction was written into the contract through a value engineering incentive clause. Since the award of the contract, this clause has been responsible for 10 VE proposals submitted by Canadair . . . The proposals represent a $25,000 reduction in cab manufacturing costs. And under the 50-50 concept of VE, the Agency saved $12,500, which was deducted from the contract price, and Canadair earned its $12,500 share of the saving.

"The value engineering changes instituted in this contract and pre-award cost reductions will be reflected in all future tower control cab procurement and recurring savings can be accumulated as the program continues. The FAA's cost reduction and VE efforts have demonstrated that the contractor's know-how can provide procurements at minimum cost without sacrificing necessary operational, technical and aesthetic requirements."



John Ratz, in Convair plant engineering at Lindbergh Field plant for more than 20 years, took a vacation from his welding job last month to fly all the way to Point Barrow, 160 miles north of the Arctic Circle — an experience he says he'll never forget. He spent the entire 24 hours in daylight on the longest day of the year, and saw open water freeze over at night in August. He brought home a thousand-year-old skinning knife with slate blade and caribou horn handle dug out of an icy bank while he watched. He'll relive his Alaskan trip many times with the 360 colored slides he shot along the way. Wife, Edna, stayed home in Pacific Beach this time. But she'll make up for it when she takes a trip East soon.



M. J. "Hub" Hubbard, Dept. 756-0 at Kearny Mesa, has been with Convair 12 years, most of the time as a precision development technician. He currently is in failure analysis. When a part fails, Hubbard helps duplicate the condition in the laboratory to determine the cause. Hub and his wife live in North Clairemont where his hobbies include gardening and carpentry. However, his ambition is to build a home on an acre he owns in Poway. A retired Navy chief petty officer, Hub was cited while a member of a medium bomber squadron in North Africa in World War II. His fondest memories of the Navy are three years with the Naval Mission in Rio de Janeiro. "That duty spoiled me. The fishing was great."



Darlene Carr, much better known as "Red," has been in Electronics division electronic assembly the last five years as a certified solderer. She handles electronic assemblies with white gloves in her "clean-up, fix-it" final assembly post, where every component must be cleaned and adjusted before going to inspection. Red was one of the crew working on the subassemblies that went into the Mariner TV which took the first shots of Mars this summer. Now she is one of the assemblers working on JPL transmitter and transponder components. A busy mother with three boys, 12, 10, 9, and a girl, 7, Red still finds time to join her husband a couple of nights a week on bowling teams. He works at Convair's Point Loma Test Site.



Adeline "Addie" Lowe, Dept. 460-0, Kearny Mesa, has been in tool service all her 17 Convair years. Her home is in Pacific Beach but her "weekend heart" lies in a trailer at Potrero where she goes to "get away from TV among the coyotes, oak trees and bobcats." She hikes, or rides a 10-speed bicycle, a gift from her 18-year-old son. Addie loves travel, went to Europe four years ago on vacation and plans to return. In her present job, Addie orders spare parts for portable power tools, welding supplies and electric cables. She likes it because "I get a general idea of what's going on." Many Convair "do-it-yourselfers" know Addie, for she is the one who checks out power tools for weekend use.

Material Handling Methods Overhauled in Stockrooms

Use of ordinary bread pans, equipped with dust-proof plastic covers and snap-on identification envelopes, have increased efficiency and given a new "clean look" to work-in-process stores in Bldg. 33 at Convair's Kearny Mesa plant.

By streamlining procedures and using the bread pans, both stock storage space and the stockroom work force have been cut almost in half with increased efficiency still being evident.

"Each clerk is assigned a specific area and he keeps it in good shape," John R. Munson, assistant foreman for Dept. 832-3, said. "The people working here now have more pride in the area and a keener sense of responsibility for their work."

WIP stores was established as a separate section of production control in June, 1964, with George Woodberry, general foreman, and F. J. "Bud" Parker, chief of stores. Among key personnel who assisted in putting the new streamlined procedures into operation were James Beck and Joseph Perecko of material handling.

Employes in the WIP stores in Bldg. 33 handle 12,000 different kinds of parts, filed according to size and type of part, according to a new standardized numerical shelf-numbering system.

"This system has eliminated a lot of misfiling," Munson said. "Clerks now know exactly where to put every part."

Employes in the nine WIP stores under Woodberry's supervision handle more than 40,000 different types of parts.

Covers for the bread pans were made by an outside small business firm. Pans used in storing some of the more delicate electronic components are padded with a sponge-like polyurthane foam material.

Parts too large to go in the bread pans are placed in larger containers measuring 10x16x5 inches, 10x16x8 inches, and 15x20x8 inches. Each of the larger pans can be divided by plastic dividers into as many small sections as desired.

Woodberry said that improvements in the WIP stores operations demonstrates the positive results that can be achieved when people in an organization work together toward a common "Do Good Work" purpose.

Harold Cheney's Son To Teach in Africa

Carl Cheney, Convair son and holder of the 1960 Management Club scholarship, has arrived in Sierra Leone, West Africa, to start a two-year Peace Corps assignment.

Carl, son of Mr. and Mrs. Harold Cheney (he's in Dept. 575-3), will teach history to young people between the ages of 13 and 23 at a government school in the town of Kenema, population 14,000.

The young Peace Corps worker received his bachelor's degree in history this June from Stanford University and went on to Roosevelt University, Chicago, Ill., for two-months' training for his present assignment.

Golfers Will Play San Luis Rey Links

Entries open next Monday (Sept. 20) for the monthly CRA golf tournament set for Oct. 9-10 over San Luis Rey course, said Commissioner Ken Wulfemeyer.

Sign-ups can be made until Oct. 1 for the medal play tourney by calling CRA Headquarters, ext. 1111, Kearny Mesa.

Son Of Carl Carey Wins Scholarship

The son of Carl V. Carey, Dept. 452-0, has won $1,000 in scholarships to San Diego State College.

C. V. "Bud" Carey Jr. has been awarded a $500 scholarship by the International Radio and Television Society, New York, and a $500 Art Linkletter scholarship.

The International Radio and Television Society award was based on Carey's college grades, letters of recommendation, and his 1,000-word essay, "Responsibilities of the Media."

Bud is a senior at San Diego State majoring in radio and television. His goal is broadcast management.

Charger Home Game Tickets Go on Sale

Reduced-price tickets to the Chargers' next home game Sept. 26 with Kansas City went on sale this week at Convair, Electronics, and Stromberg-Carlson employe outlets.

Regular $3.50 seats are $2.50 for General Dynamics football fans.

The Sunday game will start at 1:30 p.m. in Balboa Stadium.

Annual 'Ducks' Dinner Tickets Are on Sale

General Dynamics sportsmen and their ladies may purchase tickets now at Convair employe services outlets to the 22nd annual Ducks Unlimited dinner Oct. 7, in the Hotel Del Coronado ballroom.

Ducks Unlimited parties raise funds to help conserve the Canadian marshlands where most North American waterfowl raise their young.

The affair will begin with a 6:30 p.m. cocktail hour followed by a roast squab gourmet dinner. A premiere showing will be held of this year's waterfowl movie in color of the Canadian marshes. Also, there will be a drawing for thousands of dollars in prizes, said George Cowan of Convair Dept. 802-0, treasurer of the DU steering committee.

Tickets are $15 each, covering the dinner cost of $5 and $10 contribution to Ducks Unlimited. They may be obtained from Cowan, ext. 3818 Kearny Mesa, and from Convair employe services, Bldg. 8, Kearny Mesa plant, and Bldg. 16, Lindbergh Field.

Discounts Offered On Football Benefit

Discount tickets now are on sale at Convair to the first football contest pitting the University of Mexico against a local team.

Cal-Western University's Westerners will meet the Mexico Pumas this Saturday (Sept. 18) at 2 p.m. in Balboa Stadium as a benefit for Tijuana's health and education program for children. The game is sponsored by Project Amigos and Casa de Todos, Tijuana orphanage.

Prices offered through CRA arrangements are $1.50 for $2 adult tickets; 75 cents for regular $1 student tickets (6-18 yrs.). Children under 6 are admitted free. Tickets are on sale at all employe services outlets.

Speaker to Describe Movie Invention

Francis A. Pall, recently retired from Convair and now operating his own consulting engineering firm, will speak at a meeting of the San Diego Section, American Society of Mechanical Engineers, 8 p.m., Sept. 23.

The meeting will be held in Room T-217 at the General Atomic plant. Pall will describe an experimental motion picture system he has invented. The system uses a filter set and multiple lenses to project ordinary black and white film positives as composite color images.

Mgt. Club Will Hear 'Survival' Talk

Convair Management Club members will meet tonight (Sept. 15) in the Community Concourse to hear T. G. Miller of A. D. Little, Inc., speak on "Survival in the Aerospace Industry."

Social hour at 5:30 p.m. will be followed by a 6:45 dinner.

Free parking is provided at the Concourse Parkade for those attending. Tickets must be validated at the desk inside the Concourse.

Faculty Members See Kearny Mesa

The faculty at the Air University, Maxwell AFB, Montgomery, Ala., visited Convair's Kearny Mesa plant early this month.

They were briefed on present space booster and space activities with emphasis on future plans and developments.

Col. M. K. Andresen, AFPRO, and W. H. Patterson, director of planning, were hosts.

The briefing team included C. S. Ames, Convair vice president and SLV program director, and Grant Hansen, Convair vice president and Centaur program director.

Senior Air University faculty officers were Cols. Waymon D. Clark, James F. Risher Jr., and William N. Worley.

Magnuson Appointed 'Honorary Logistician'

W. E. "Wes" Magnuson, Convair chief of special projects in reliability control, has received a certificate naming him "honorary special logistician" to the commander of Granite City Army Depot in Illinois.

Col. Charles B. Schweizer, depot commander, presented the certificate Sept. 1 after Magnuson spoke to 1,500 persons attending a kickoff rally for the depot's Zero Defects program.

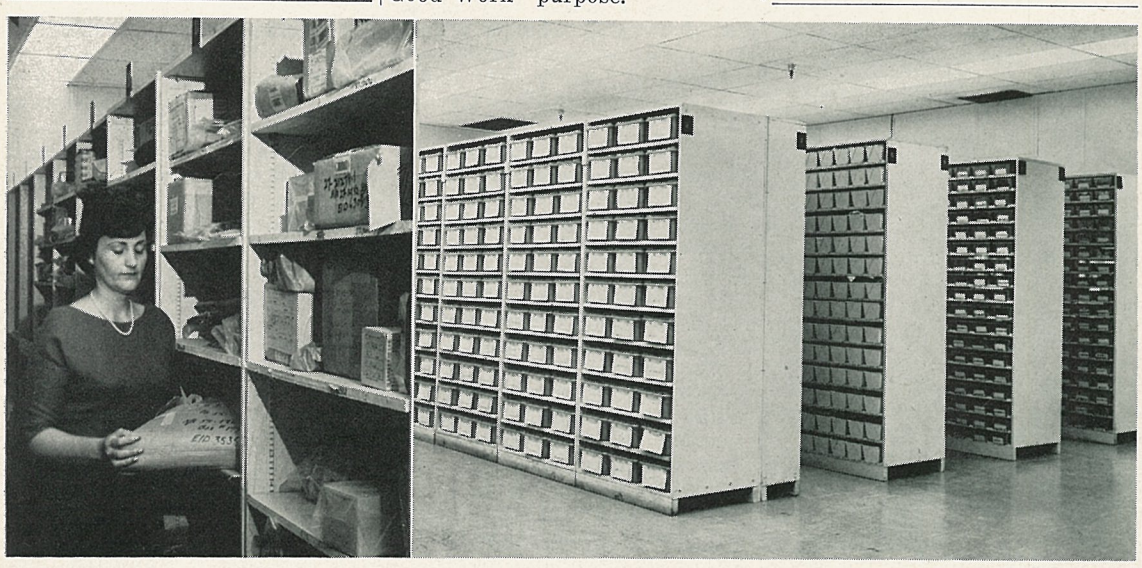
Magnuson also is scheduled to describe Convair's "Do Good Work" program Sept. 30 in a meeting for employes of the Pueblo Army Depot in Colorado.

Letters to the Editor

I am sorry that I lack better words to express my appreciation to you for sending me **GD/NEWS.**

Best wishes to all of you at Convair, good luck, good health, now and always.

Milo T. Radovich
4763 Wilson Ave.
San Diego. (Retired, 1961).



CONTRAST — At left, Oneta Lanell Richeson, Convair Dept. 832-3, inspects typical work-in-progress stores in Bldg. 33, Kearny Mesa, before six-month effort to simplify storage and handling of parts. At right is view of an area after new system was adopted. Identification cards for parts snap on to dust-proof "breadpans."

More Than 100 Tennis Players Compete in 'Finest Tourney'

First CRA-Management Club co-sponsored tennis tournament wound up play the last weekend in August with 119 entries competing for 25 trophies in ten events on Mesa College and Morley Field courts.

CRA Tennis Commissioner Ray Hardy said, "It was the finest tournament and the largest turnout we've had in the history of the activity."

In the advanced men's singles Dave Bennett, son of Ruth Bennett (Dept. 170-9), downed Cecil Norwood (Dept. 965-2), 6-1, 6-1. Ed Pawka (Dept. 110-0) defeated Jack Rogers (Dept. 210-4), 6-3, 6-3, to win the intermediate event.

A novice class, included in the tournament for the first time, was won by Dennis Hanrahan (Dept. 142-1) who bested Rick Norwood (son of Cecil), 6-1, 7-5.

Cecil Norwood teamed with Larry Chambers (Dept. 170-3) to top advanced men's doubles by winning the most games of a 50-game round robin. Team of Bob Herold (Dept. 141-3) and Dave Bennett was second.

The 40-game intermediate men's doubles play-off was won by Hardy (Dept. 845-3) and Ron Madonia (Dept. 527-3). Second place went to Pawka and Don McClarren (Dept. 377-8). Novice doubles event was won by Hanrahan and Jim Jobe (Dept. 830-0). Rick Norwood and Rick Schultz, son of Dutch Schultz (Dept. 845-3), took second place.

Hanrahan and wife, Judy, took first in the novice mixed doubles event. Betty Severson, wife of Wesley (Dept. 816-2), and Dutch Schultz were second.

In husband and wife events, Diana and Mike Greggs (Dept. 596-0) took the 40-game round-robin intermediate contest. Ruth and Ed Bennett were in runner-up spot. The novice couples' event was won by Lotta and Eric Herz (Dept. 543-3) with Judy and Dennis Hanrahan finishing in second place.

Jim Lamoreux of Dept. 963-3 was awarded the special "sportsmanship" trophy, given for the first time to the person chosen for his high standards of courtesy, attitude, and competitive spirit whether winning or losing.

EVALUATION EXPERT WILL BE SPEAKER

Mrs. Gertrude Anderson, evaluation school director, will be guest speaker at the Sept. 20 meeting of Serra Mesa Toastmistress Club, 7:30 p.m., Room C, CRA Clubhouse. For information call Beth Underkofler, ext. 725, or Elinor Slater, ext. 2571, both Kearny Mesa plant.



CON-TRIB HELP—Ernest E. Larsen and Floyd E. Allen, left, of Convair's Con-Trib-Club, present $1,500 check to Elizabeth Guerra for Arthritis Foundation's annual drive. Approving is Dr. Robert T. Reid, chairman of Foundation's medical and scientific committee.

Convair Daughter, an Arthritis Victim, Accepts Con-Trib Gift to Foundation

A Convair daughter who has been receiving treatment for crippling arthritis through the aid of the San Diego Area Chapter of the Arthritis Foundation helped accept a donation of Convair Employes' Con-Trib-Club to the Foundation's annual fund drive.

Elizabeth Guerra, 14, one of the five children of Manuel Guerra (Dept. 250-4), received the $1,500 contribution along with Dr. Robert T. Reid, chairman of the Arthritis Foundation's medical and scientific committee.

Elizabeth, who has been unable to attend school for two years because of arthritis, has received care at Mercy Guadalupe Clinic through an Arthritis Foundation grant for patient services there.

The Con-Trib donation is more than half of the $2,573.79 received by the Foundation in advance gifts prior to its 1965 fund drive which will be held in late September and early October.



CASH GOODBYE — Ruth "Mickey" Young, Dept. 780-1, left, received "money tree" and other gifts at party observing her retirement. Shown with her are W. U. Gatterman and Bessie S. Bower, both Dept. 780-1. Mickey worked for Convair 1942-45, 1950-55 and 1956 to present. Of her associates she said, "There are no nicer people."

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for submitting news for the next issue of GD/NEWS is by noon, Sept. 22, ext. 3322, Kearny Mesa.)

★ ★ ★

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BRIDGE—Fall party and master point night Sept. 24, 7:30 p.m., CRA Clubhouse. Open to all Convair employes, customers, contractors and families.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COINEERS — Meeting tonight (Sept. 15), 7:30 p.m., Convair cafeteria, Pacific Hwy.

EXPLORERS—Meeting tonight (Sept. 15), 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB — Meeting tonight (Sept. 15) Gillespie Field Clubhouse.

GOLF—Entries open Sept. 20 to Oct. 1 for CRA tourney to be Oct. 9-10 at San Luis Rey. Call ext. 1111, Kearny Mesa, for starting times.

ICE SKATING — Annual "Autumn Weekend at Big Bear" Sept. 17-19. GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR RIFLEERS—Meeting tonight (Sept. 15), 7 p.m., CRA Clubhouse. Shoot Sept. 18, 8 a.m., Gillespie Field.

JUNIOR SCIENCE — Meeting Sept. 17, 7:30 p.m., CRA Clubhouse.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — Shoot 9:15 a.m., Sept. 26, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tonight (Sept. 15), 7:30 p.m., Harbar Drive club headquarters.

SQUARE DANCING — Registration still open Sept. 21, 28, to new beginners' course, 8 p.m., CRA Clubhouse.

TABLE TENNIS—Play and instruction Mon., Tues., Wed., Thurs., 6-10 p.m., CRA Clubhouse.

TENNIS — Novice instruction course, 5-6 p.m., Tuesdays, CRA courts. Call Ray Hardy, ext. 2549, Kearny Mesa.

TOASTMISTRESSES — Serra Mesa Club meeting Sept. 20, 7:30 p.m., Room C, CRA Clubhouse.

Travelers Return From Old Mexico

Forty-five travelers returned home Aug. 22 from the annual two-week sightseeing tour of Old Mexico. This is the fifth year James Hardison of Convair has conducted the trips for General Dynamics people.

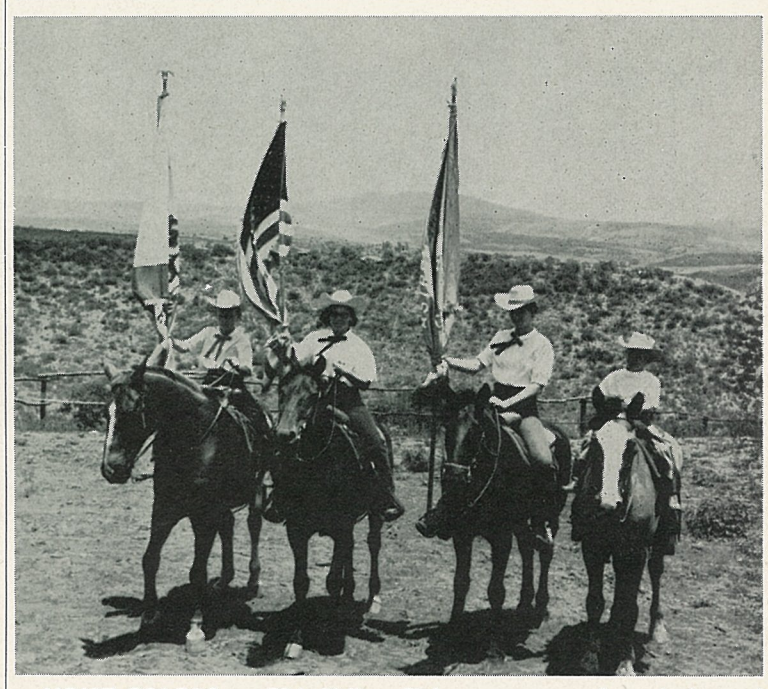
This time a new twist was included in the itinerary. Both sides of the two cars carrying the tourists were decorated with large blue and green banners urging Mexican people to "Visit San Diego." Hardison said that the brightly-colored messages drew crowds at every stop along the way from Mexicali to Mexico City.

Coineers Will Meet Tonight at Cafeteria

Convair Coineers will meet tonight (Sept. 15) for their regular monthly gathering at 7:30 p.m. in the Convair cafeteria, Pacific Hwy.

Three $5 gold pieces and a 1961 U.S. proof set will be raffled. Door prize will be a 1958D uncirculated nickel. Also, a "giveaway" coin will go to everyone present. Refreshments will be served and the usual auction held.

Sports & Recreation



HOIST COLORS — CRA Riding Club youngsters of newly-formed Color Guard are, from left, David Watson, Charlann Harmer, Sheila Payne, Dale Watson. Jan Kreis is not shown.

Al Reiter Tops Field To Win '65 Golf Title

Al Reiter (Dept. 001) swept a field of 104 linksmen to win the 1965 Convair plant golf championship tournament Aug. 14-15, 22, and 28-29 at Cottonwood course.

Many of the matches were so close, said CRA Commissioner Ken Wulfemeyer, that extra holes had to be played.

Trailing Reiter as runner-up in the championship flight was Jack Weaver of Dept. 574-1.

Kay Stites (Dept. 644-1) won first flight honors with Russ Davis (Dept. 002) second.

Second flight winner was Sterling Campbell of Dept. 584-3. Runner-up was Bob Evans (Dept. 963-3).

John Jodka (Dept. 191-0) was low scorer in the third flight with Charles Maikish (Dept. 492) in second spot.

Fourth flight was won by Bill Geopfarth (Dept. 533-3). Jim Miller of Dept. 780-2 was runner-up.

Fifth flight winner was Ed Hansard (Dept. 587-1) with Ernie Damarus (Dept. 400-0), runner-up.

Bill McColley of Dept. 191-0 topped the sixth flight. Fred Wynkoop of Dept. 197 was runner-up.

CRA Bridge Players To Vie For 'Bonus'

A "bonus" master point event for Convair bridge players will be held Sept. 24, 7:30 p.m., in the CRA Clubhouse, Kearny Mesa.

This event, planned as a fall party, is open to all Convair employes and their families, as well as bridge enthusiasts among the company's customers or contractors. No reservations are necessary.

Recent CRA Bridge Club winners include Al Buggele, Jack Christian, John Dunning, Billie and Wayne Evans, Julius Hertz, Sally and Mits Ishihara, Jerry Jaminet, Don Leistico, Mary McGee, Jody and Tony Miller, Mitzi and Bob Rustad, Jim Stephenson, Craig Stump, and Vance Walsh.

Last Call Sounded For Dance Novices

Beginning square dancers will have to hurry if they want to join the only instruction course to be offered this year by CRA Square Dance Club.

Although first class was held last night, enrollment may still be made at the next two Tuesday evening sessions, Sept. 21 and 28, said Commissioner Marty Stutz.

Classes are 8 to 10 p.m. each Tuesday evening for 24 weeks in the CRA Clubhouse, Kearny Mesa.

Five Riders Collect Ribbons During Show

Five CRA Riding Club members, mainly of the younger set, rode away with ribbons and awards at the Poway Valley Riders' National Horse Show the weekend of Sept. 4-6.

Mickey Donahoo won a first in both pole bending and Texas barrel racing events in the gymkhana class. Judy Watson placed fourth in Texas barrel, and eighth in pole bending; and Gregory Kreis, 10th in pole bending.

Susan Harmer was eighth and Kimberley Donahoo, 10th, in the Western pleasure division of the equitation class.

The club honored the winners at a hamburger fry last Saturday (Sept. 11) at the CRA picnic grounds.

Ball Fans to Watch Dodgers vs. Milwaukee

Last call is out for ball fans who plan to wind up the season by watching the Dodgers play Milwaukee Braves in Los Angeles on Friday night, Oct. 1.

Reservations should be made as soon as possible for the CRA-sponsored group trip, said Pete Beyrer, who is handling arrangements. Sign-ups accompanied by payment of the $6.50 charge may be made at Convair employe services outlets and at CRA Clubhouse, Kearny Mesa plant.

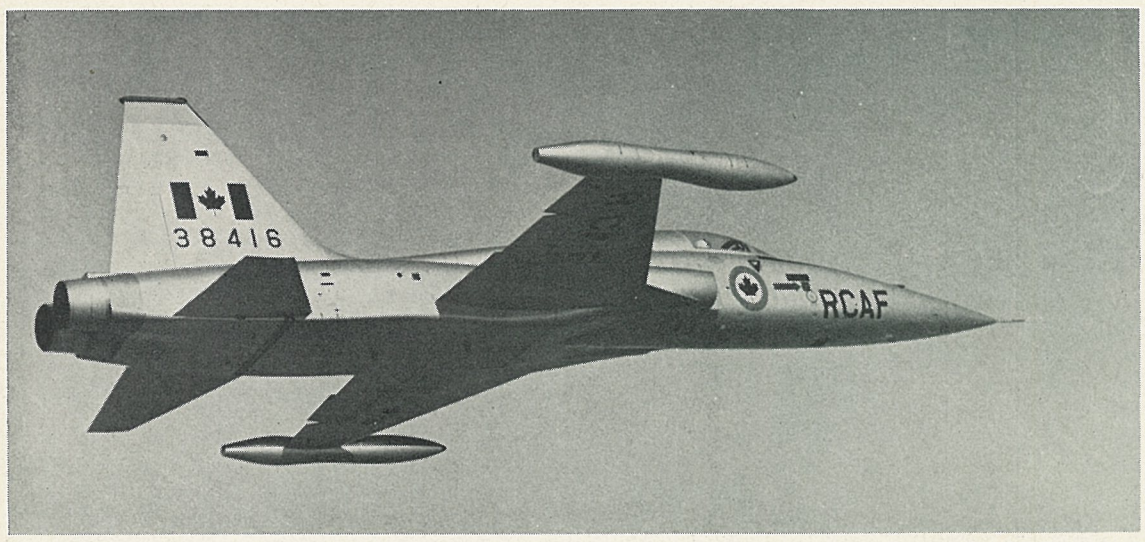
Buses will leave both Lindbergh Field and Kearny Mesa plant about 5:15 p.m. in time to arrive at the Chavez Ravine stadium well before game time of 8 p.m.

Sept. 27 Is Deadline For NMA Area Golf

Entries close Sept. 27 for the second annual San Diego Area Council of the NMA golf tournament as well as for the National Management Association tourney to be held in San Diego during the 1965 convention.

Play in each tourney will be any one of three days, Oct. 23, 24, or 30, at Cottonwood and Bonita Valley Country Clubs.

Entry fee is $7.50 for each tournament and must accompany entry forms. Entries are to be mailed to Ernest Paul, 5035 Milton St., San Diego.



JOB FOR CANADAIR — Canadian Government recently announced purchase of 125 CF-5 tactical fighters, Northrop-designed. Canadair will build planes at Montreal.

Scientists, Engineers in Aerospace Increasing, Jobs Survey Indicates

A small increase in total aerospace employment—from 1,123,000 in March to 1,132,000 in December—has been predicted by Karl G. Harr Jr., president of the Aerospace Industries Association.

Significantly, he forecast that employment of scientists and engineers would increase by 13,000.

Harr's forecast was based upon an AIA study revealing that the industry's research and development activity is increasing, that increased employment for development and manufacture of aircraft more than offsets the decline in missile work, and that non-aerospace activities of the industry continue to increase gradually.

Although the past several years have seen a relatively steady increase in the work force involved in missile and space manufacture, and a decline in aircraft, the current survey reveals a reversal in this trend. Employment in aircraft establishments is scheduled to advance from 600,000 to 642,000 while employment in missile and space plants declines from 481,000 to 446,000.

As a percentage of total aerospace employment, jobs in aircraft plants increase from 53.5 to 56.7 per cent; missile and space employment declines from 42.8 to 39.4 per cent; and non-aerospace increases from 3.7 to 3.9.

However, Harr pointed out that "to a degree, the category 'missile and space' is somewhat misleading. Actually, the industry's workload for space is increasing. However, in a quantitative survey of this nature, it is virtually impossible to differentiate many of the elements as being either 'missile-oriented' or 'space-oriented.'"

The employment of scientists and engineers within the three product groups further reflects the changes that are taking place within the aerospace industry. This group, engaged in work for aircraft manufacturers, is expected to increase by 9,000, from 72,000 to 81,000 between March and December. Those working on missiles and space are expected to increase by 4,000, from 96,000 to 100,000. The level of employment of scientists and engineers engaged in non-aerospace activities is expected to remain constant.

The survey indicates substantial stability in the geographic distribution of aerospace employment throughout the nation. The Pacific area is expected to decline 1.5 per cent between March and December, 1965. This decline is offset by small increases in other areas.

Declining employment in missile and space activities is having its most noticeable effect in the Pacific region. However, this is offset to a significant degree by an increase in aircraft employment. All other regions are relatively stable.



NEW COMMAND — Col. Arthur H. Bridge, commander 163rd Fighter Group at newly-activated Air National Guard Base, Ontario, Calif., receives F-102 credentials from Convair's Bill Boughey following first solo flight in jet fighter-interceptor.

Something to Think About . . .

Thomas J. Watson Sr.: "It is a common mistake to think of failure as the enemy of success. Failure is a teacher—a harsh one, but the best. Pull your failures to pieces, looking for the reason. Put your failure to work for you."

B. C. Forbes: "About the greatest possession of all is a warm unchangeable sense of our brotherhood with our fellow humans. Without this, we are not fully rich."

Burton Hills: "The secret of a happy and successful life is to be content with the abilities God gave and discontented with the use you make of them."

John D. Rockefeller: "Good management consists in showing average people how to do the work of superior people."

Abraham Lincoln: "Gold is good in its place; but living, brave, patriotic men are better than gold."

Dozen Participating In Space Conference

Over a dozen General Dynamics men from Convair and Pomona divisions are participating in the SAE 1965 National Aeronautic and Space Engineering and Manufacturing meeting to be Oct. 4-8 in Los Angeles, Calif.

Those from Convair who are involved in advance planning or who will present papers are J. H. Famme, G. A. Grossaint, J. C. Duffy, G. J. Langford, H. C. Courington, W. W. Withee, D. J. Peery, D. H. McCoy, Paul Slysh.

Pomona participants are G. E. Sylvester, Raymond Soward, R. H. Thatcher, G. J. DeBell.

Six Dial-X Systems Ordered For Subs

Stromberg-Carlson has received contracts to provide automatic Dial-X telephone systems for use on six new attack submarines.

S-C has been manufacturing this type of switching equipment under other contracts for all Polaris firing submarines and for use aboard Navy ships.

The Dial-X switchboard is housed in a five-foot enclosure and has a self-contained power supply. It provides service for up to 40 prime line stations and makes use of the Type G telephone set for bulkhead or desk mounting.

Huntsville Meeting Hears Convair Man

Joseph E. Carlin, Convair tool development engineer, described a new concept in precision tube flaring for leak-proof separable connector joints at a conference early last month at NASA's Marshall Space Flight Center, Huntsville, Ala.

Carlin's paper, "Precision Tube Flaring by Controlled Metal Displacement," outlined Convair's Dynaflare process as a new approach to the production of precision tube flares.

FORTY-YEAR MAN

Norman C. Fox, supervisor of accounting operations at Electronics division, Rochester, celebrated his 40th service anniversary this month.

Products Are on Exhibit At Air Force Briefing

Fort Worth division, Convair, Electronics and Canadair are exhibiting products at the annual Air Force Association "Aerospace Development Briefing" in Washington, D.C., this week.

The General Dynamics exhibit area in the Sheraton Park Hotel includes a briefing theater for sessions which will run at intervals from 9 a.m. to 3 p.m. daily. The 20-minute program includes an F-111 program review, explanation of the F-111 AGE and the Charger aircraft.

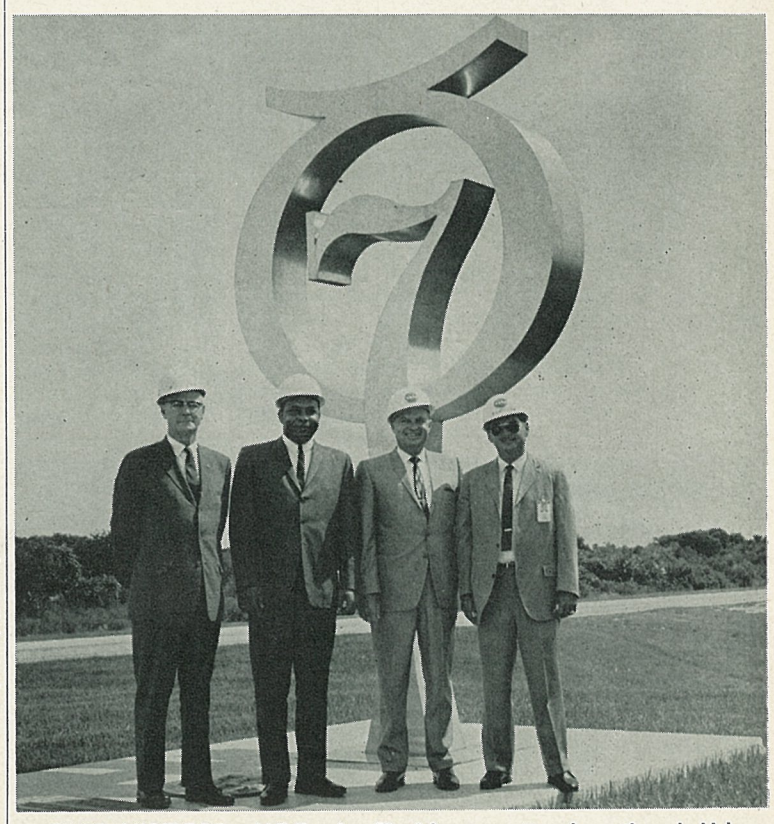
Canadair's contribution includes a CL-41 model and film and a model of the transportable control tower.

Groups attending briefings include key individuals from Department of Defense, the Air Force, NASA, FAA, Congress, and senior officers and educators from allied nations.

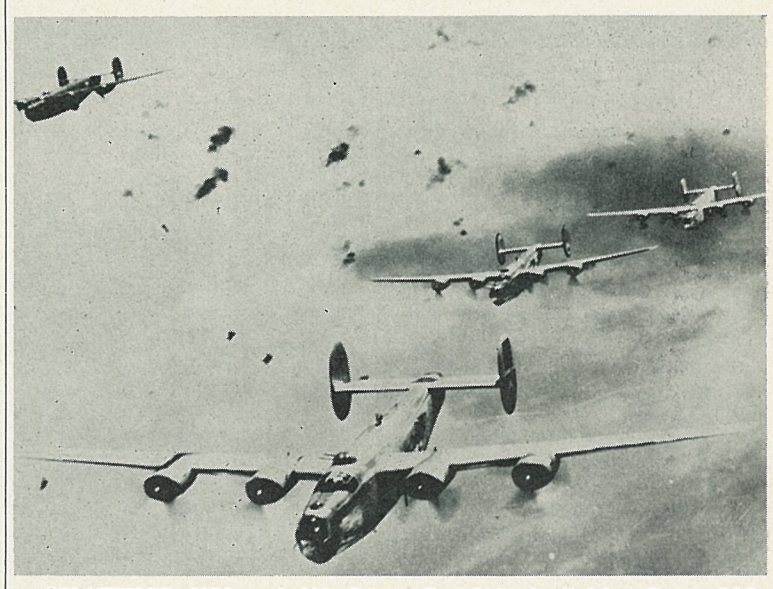
Centaur Is Featured During NASA Display

A Centaur space vehicle was featured last month in a National Aeronautics and Space Administration display at the Natural History Museum in Cleveland, Ohio.

NASA's Lewis Research Center coordinated the Centaur display, which was located just outside the museum's entrance.



CAPE VISITORS—While in Florida to attend national Urban League convention, General Dynamics men visited Mercury Monument at Cape Kennedy. From left: Tracy Brooks, Corporate manager of personnel placement; John Johnson, executive director, San Diego Urban League; M. V. Wisdom, Convair director of industrial relations; Charles Friedlander, assistant to deputy director of John F. Kennedy Space Center.



SPLATTERED SKY — J. W. Gage, Fort Worth division Dept. 211, was B-24 ball turret gunner with 460th Bomb Group in WWII. Despite heavy flak, he managed to photograph this dramatic moment during mission over Southern Germany.



"Man, what a day it would be if th' sun was out and you were Shirley, and we were in the park . . ."

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 20 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, September 29, 1965



MONEY MATTERS — Computer tapes that will keep track of employes' Savings and Stock Investment Plan participation are shown to G. W. Robertson, left, coordinator for payroll, and C. U. Altland, right, data processing senior programmer, by M. M. Kosmas, computer operator in Convair Dept. 101-2.

Savings and Stock Data Being Stored on Tape

Electronic data processing tab cards and high speed computer tape will be used at Convair to keep up-to-date records for salaried employes participating in General Dynamics' new voluntary Savings and Stock Investment Plan.

Dynamics employes who submitted application forms to employe services before the deadline can take advantage of the payroll deduction plan with first deductions to be reflected in checks for the pay period ending Oct. 17, which will be distributed Oct. 22.

General Dynamics will add 50 cents to every $1 saved by the employe under any one of four investment and savings options.

G. W. Robertson, coordinator for payroll, and C. U. Altland, electronic data processing senior programmer, said information from the application forms will be keypunched onto tab cards and fed onto the high speed payroll computer tapes.

Data processing machines will be used to prepare a summary tape each month from the two monthly payroll report tapes.

Funds will be transmitted and a copy of the summary tape will be sent each month to Bankers Trust Co. in New York, trustee for the Plan, where investment records for each employe also will be kept current through use of electronic data processing equipment.

Robertson said Bankers Trust Co. will provide a report for each participating employe at the end of each year to show the current status of his stock and bond holdings.

Altland said electronic data processing personnel had to devote only 29 man days to make

(Continued on Page 2)

Quiz Under Way On Fire Safety

Convair departments at Kearny Mesa and Lindbergh Field plants are getting a chance to prove their fire safety knowledge as Convair firemen quiz them on fire prevention and safety rules in observance of National Fire Prevention Week, Oct. 3-9.

"Fire prevention week is a time when we must check our defenses and make sure that our habits are fire-safe," emphasized Fire Chiefs

(Continued on Page 2)



RIGHT EXTINGUISHER — Susan Albone, keypunch operator in Dept. 101-6 at Kearny Mesa, gets instruction on how to use a water-type fire extinguisher from Convair fireman, G. C. Brown.

Like to Watch Atlas Shot at Vandenberg?

Would you like to watch an Atlas launch?

Would you like an all-expense-paid trip to Vandenberg AFB in the company Aero Commander airplane?

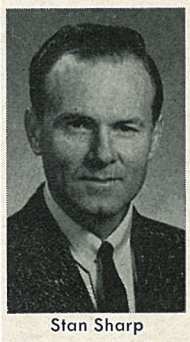
Would you like to watch a launch countdown in the blockhouse?

Would you like to hear the shot explained by launch personnel?

Watch for contest details in the next issue of General Dynamics News!

BOWMAN RETIRING; SHARP TO SUCCEED

W. E. "Bill" Bowman, manager of industrial security for Convair, retired this week. His successor is S. R. "Stan" Sharp who has been in charge of security for the Lindbergh Field plant.



Stan Sharp

Bowman was guest of honor at a "going away" party last week at the Islandia Hotel.

A practicing attorney and an agent for the FBI from 1942 to 1945, Bowman joined Convair in 1950 and moved to the Kearny Mesa plant when it first opened. Under him were Depts. 130-1, 131-1, 132-1 and 132-2, involving approximately 200 plant guards and firemen.

Sharp attended secondary schools in San Diego and graduated from the University of California at Berkeley in 1953. He served in the Army from 1943 to 1946 with the rank of captain.

After attending Hastings Law School he served two years in Washington, D. C., as a special agent for the FBI. He joined Convair in 1954 as an industrial security investigator and took over the Lindbergh Field plant responsibility on the retirement of Frank Merritt in the fall of 1963.

Audit Program Begun For Navy

Representatives of Convair product effectiveness (Dept. 145-1) at Kearny Mesa last week were conducting quality assurance audits at Navy shipyards in San Francisco and Long Beach in the first phase of an 18-month program. Eventually it will take them to all Navy and many privately owned shipyards throughout the United States.

The program, under a new contract for approximately $226,000 plus travel costs, will be under the direction of Dr. G. L. Stiehl Jr. G. C. Kolsky is project leader. Both recently completed a two-year assignment with the Bureau of Ships in Washington.

Members of the audit team will be away from San Diego about 50 per cent of the time during the 18-month period.

Participating full time, in addition to Kolsky, will be D. S. Arnott, William T. DeFrance, Harold L. Kennedy, W. L. Klepper, J. T. Ratajkowski, F. H. Ryle, Reginald Sanchez Jr. and R. H. Sparks. Alternates will be J. W. Dixon, Charles W. Foster, H. H. Livermore and Sigmunt Mucha.

Conducting the audits last week were Kennedy, Klepper, Ryle and Sanchez in San Francisco and Kolsky, Arnott, Ratajkowski and Sparks in Long Beach.

(Continued on Page 2)

Defects Show Sharp Decline

Employes in MAB-5, Dept. 576-16, Convair SLV Missile Support Operations, Western Test Range, last month became the first Convair group to be named "Craftsmen of the Month" for the fifth time. They will receive silver Craftsmen lapel pins with the numeral "5" engraved in the center.

The department had a 100 per cent performance improvement during a two-month period, cutting the average number of defects from 2.03 for each 100 inspections in June to .95 for each 100 inspections in August.

Machine shop Dept. 715 at Air Force Plant 19 took Craftsmanship honors for the second consecutive month by reducing its parts rejection percentage to .38 from a .98 level in June.

Also qualifying for Convair "Craftsmen of the Month" honors were sheet metal, Dept. 001 at Lindbergh Field, and Complex 14, Dept. 571-1, Eastern Test Range.

Dept. 001 at Lindbergh Field reduced its average defects per 100 manhours from 49.18 in June to a record low of 16.27 in August. This represents a 300 per cent quality level improvement.

Complex 14 at the Eastern Test Range reduced its average number of defects for each 100 inspections from a 2.60 level in June to 1.43 in August.

August was the second month for Dept. 715 at AF Plant 19 to receive Craftsmanship award honors while Dept. 001 at Lindbergh Field was qualifying for its first award. Complex 14's August "Craftsmanship" win was its fourth since this phase of the "Do Good Work" program was initiated in January, 1964, and was its third consecutive monthly award.

Atlas Readied For Its Role in Space Docking

Atlas SLV-3 No. 5301 stands on launch Complex 14 at Cape Kennedy mated to the Agena it will boost into space next month in one of the United States' most sophisticated launch efforts and first in-space spacecraft docking program.

Astronauts Cdr. Walter Schirra and Maj. Thomas Stafford, after being lifted into space by a modified Titan II, are to maneuver their Gemini VI spacecraft into position and lock it to the Agena.

R. W. Keehn, Convair assistant program director-SLV, said the SLV-3 lifting the Agena will be the first to be launched from the Eastern Test Range and the launch will be the first from Complex 14 since the last Project Mercury flight.

(Continued on Page 2)



FIRST DELIVERY—M. Lamar Muse, Central Airlines president (seated), signs acceptance papers for first Convair 600 delivered by Convair from San Diego base the middle of this month. Standing (from left) are C. L. Meador, Convair vice president of contracts and commercial sales; M. P. Lovett, Convair assistant general counsel; R. L. Sicard, Central Airlines vice president of operations; J. S. Boaz of Convair contracts; A. A. Bradford, chairman of Central's board; and Irby Dyer, general counsel for Central.

Central Airlines Gets Its First Convair 600

First Convair 600 to be delivered by Convair went the middle of this month to Central Airlines of Fort Worth, Texas. It was flown to Central's home base at the Greater Southwest International Airport, Fort Worth, on Sept. 19.

The plane is a Convair 240 converted to propjet by Rolls-Royce Dart engines.

A. A. Bradford, chairman of Central's board of directors, and Central's president, M. Lamar Muse, were in San Diego to take delivery of the plane, first of 10 ordered by Central. Convair was represented by C. L. Meador, vice president of contracts and commercial sales.

Federal Aviation Agency granted a provisional airworthiness certificate for the 600/240 earlier this month. This permits Central to use the airplane for crew training, route proving and flight demonstration. Meanwhile, flight testing of the 600 prototype for final FAA certification, which clears the airplane for passenger service, will continue at Convair.

Central will operate 600s over its interstate network which serves 41 cities in Texas, Oklahoma, Colorado, Kansas, Missouri, and Arkansas.

Other airlines which soon will be flying Convair 600s are Trans Texas, Caribair, and Hawaiian. A total of 52 Convair 600s are on order.

Log Book Entries

Awards

CONVAIR

Employe Suggestion awards approved for the reporting period ending Sept. 8.

Dept. 002, R. C. Beezley (two awards), R. A. Davis; Dept. 024, W. R. Hoover and E. E. Yturralde (joint award); Dept. 041, G. A. Hasti; Dept. 102, H. J. Cronk and F. J. Toth (final installment, joint award), J. P. Hood; Dept. 113, N. D. Jones and R. D. Qua (joint award); Dept. 116, D. W. Kennedy (final installment); Dept. 119, F. H. Felchlin (final installment).

Dept. 123, G. Huerta and R. Rush (final installment, joint award), R. J. Robinson and G. D. Rush (two joint awards, final installment); Dept. 141, F. J. Hammack and C. E. Rice (final installment, joint award), T. W. O'Laughlin Jr. (first installment); Dept. 143, T. L. Anibal, H. D. Sterling (final installment); Dept. 146, B. A. Peters (first installment); Dept. 149, R. J. Harris; Dept. 191, V. R. Pieters (first installment); Dept. 193, M. B. Beck; Dept. 223, W. F. Strasburg; Dept. 571, M. A. Badwin (first installment).

Dept. 576, B. Hughes and O. L. Telford (joint award); Dept. 644, J. A. DeGrazier, M. J. Weaver; Dept. 732, D. W. Keaton; Dept. 733, R. S. Hull; Dept. 759, L. O. Marine and J. R. Weaver (joint award); Dept. 763, E. E. Senior and J. D. Willingham (joint award); Dept. 780, M. W. Robbins; Dept. 802, H. M. Medeiros; Dept. 819, C. L. Hartwell; Dept. 830, R. F. Lunetta; Dept. 835, W. S. Hill; Dept. 845, M. G. Collier; Dept. 953, F. R. Gaughen; Dept. 954, N. K. Polakowski; Dept. 964, K. K. Eulette (final installment); Dept. 971, A. LeBlanc; Dept. 973, R. P. Armenta; Dept. 979, C. H. Janes Jr.

Cost Improvement Proposal approved during the same period.

Dept. 141, W. J. Knox.

Papers Presented

CONVAIR

CARLIN—J. E., Dept. 403-3. "Precision Tube Flaring by Controlled Metal Displacement." SAE/NASA Conference on Design and Leak Tight Fluid Connectors, Huntsville, Ala., Aug. 4-5.

ONSTAD—R. C., Dept. 543-1. "A Precise Two Megabit Analog to Digital Converter for Space Applications." IEEE/1965 Conference on Military Electronics, Washington, D.C., Sept. 22-24.

PENGELLEY—C. D., Dept. 585-1. "Preliminary Survey of Dynamic Stability of a 'Tassel Concept' Space Station." AIAA/Symposium on Structural Dynamics & Aeroelasticity, Boston, Mass., Aug. 30-Sept. 1.

STARKEY—L. H., Dept. 954-4. "Necessity and Purposiveness in the Cosmic Setting and History of Life." American Scientific Affiliation/Annual National Convention, New York, Aug. 22-26.

Papers presented at the European Molecular Spectroscopy Group/Eighth European Molecular Spectroscopy Conference, Copenhagen, Denmark, Aug. 14-20 included:

J. C. BREEZE and C. C. FERRISO, Dept. 596-0. "Integrated Intensity Measurements of the Fundamental and First Overtone Band Systems of CO Between 2,000 and 5,000 degrees K."

C. C. FERRISO, Dept. 596-0. "Temperature Dependence of the Integrated Intensity Vibrational-Rotational Bands."

W. MALKMUS, Dept. 596-0. "Band Intensities and Spectral Emissivities of Pure Rotational Band Systems of Symmetric and Oxisymmetric Top Molecules."

Papers presented at the American Society for Quality Control/Los Angeles Section, Anaheim, Aug. 19-20 included:

H. C. COURINGTON, Dept. 151-0. "Contracting to Baselines."

R. H. NICHOLSON, Dept. 147-0, and D. M. WILLIAMS, Dept. 681-2. "Configuration Control at the Launch Site."

D. R. PARDEE, Dept. 170-0. "Machine Systems for Control of Contract Reports - AFSC/AFLC 310-1."

Papers presented at the SSD/BSD 10th Symposium on Space & Ballistic Missile Technology, San Diego Naval Training Center, Aug. 4-6:

C. S. AMES, Dept. 630-0. "The SLV-3X."

J. S. BERGGREN, Dept. 633-0. "SLV-3 Flight History."

Personals

CONVAIR

The flowers and sympathy received at the death of my husband, Carl William Allison, is deeply appreciated by my daughters and me.

Vivian Allison.

* * *

Thank you very much for your kind expressions of sympathy at the death of our husband and father, Sidney Lambe.

Louisa Lambe and Family.

Births

CONVAIR

ARCHIBALD—Son, Paul Scott, 7 bs., 10 oz., born Sept. 4 to Mr. and Mrs. William P. Archibald, Dept. 526-0.

CELAYA—Daughter, Rochell Rene, 7 lbs., 2 oz., born July 1 to Mr. and Mrs. Ted Celaya, Dept. 835-2.

DOHM—Daughter, Lisa Michelle, 7 lbs., 9 oz., born Sept. 12 to Mr. and Mrs. Frank Dohm, Dept. 588-1.

Deaths

CONVAIR

LAMBE—Sidney E., Dept. 817-0. Died suddenly Sept. 11. Survived by his wife, Louisa; son, Michael; daughter, Mrs. Carol Reed; mother; and brother.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff, ext. 1931, Kearny Mesa. Two hours, Monday, Oct. 4, 8-10 a.m.; Room 7, Bldg. 17, Kearny Mesa. Lindbergh Fied, ext. 491. One hour, Tuesday, Oct. 5, 3:30 p.m.; Dept. 300, Tuesday, Oct. 12, 8 a.m. and 4:30 p.m., Bldg. 14 auditorium. Tuesday, Oct. 26, 8 a.m. and 4:30 p.m., Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1931, Kearny Mesa. 40 hours, Oct. 11-22, 8 a.m. to noon, CRA building. Enrollment closed.

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Limited enrollment. Four hours; daily, 4:30-5:30 p.m., Dept. 780 Conference Room, Bldg. 33, Kearny Mesa.

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks. Kearny Mesa coordinator, Harry Miller, ext. 1931; Lindbergh Field coordinator, Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training) — Eight hours per day, 26 weeks. Bldg. 3, Lindbergh Field. Coordinator, Wayne Turner, ext. 491.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m.; Room 10, Bldg. 17, Kearny Mesa.

FIRST AID FOR FIREMEN AND GUARDS—H. C. Neel. 16 hours; Tuesday through Friday, 1:30-3:30 p.m. for 8 weeks. Room 6, Bldg. 14, Lindbergh Field. For information and quotas call Wayne Turner, ext. 491, Lindbergh Field.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECKOUT—Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours, Monday through Thursday, 3:15-5:15 p.m. Sept. 13-Oct. 31. Four weeks on Fortran, Bldg. 17, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

CRYOGENIC ENGINEERING — Karl Leonhard, ext. 4583, Kearny Mesa, 48 hours; Tuesdays, 5-8 p.m., Sept. 14-Dec. 28, Room 7, Bldg. 17, Kearny Mesa. Prerequisites: minimum of 3 yrs. toward BS degree or 5 yrs. applied engineering experience.

Retirements

CONVAIR

ALCOCK—John R., Dept. 824-0. Seniority date July 3, 1952, retired Aug. 31.

BOYER—Lawrence J., Dept. 041. Seniority date May 23, 1947, retired Aug. 31.

BULLOCK—Thomas R., Dept. 696-1. Seniority date May 22, 1956, retired Aug. 31.

COLEMAN—John H., Dept. 460-0. Seniority date March 1, 1956, retired Aug. 3.

DEWHURST—Harold R., Dept. 2-0. Seniority date Jan. 17, 1947, retired Aug. 27.

EDMONDS—Albert S., Dept. 818-1. Seniority date June 1, 1950, retired Sept. 3.

EVANS—Marshall, Dept. 251-4. Seniority date Aug. 2, 1951, retired June 30.

FERRIS—Michael J., Dept. 16-1. Seniority date May 5, 1954, retired Nov. 17, 1964.

LADERER—John A., Dept. 153-0. Seniority date July 6, 1957, retired Aug. 27.

LEYDENS—Reuben, Dept. 576-1. Seniority date Jan. 7, 1957, retired Aug. 24.

LOHRE—Herman M., Dept. 170. Seniority date Dec. 17, 1941, retired May 15.

MARTINEAU—Peter M., Dept. 824-0. Seniority date March 16, 1948, retired Aug. 31.

MOORE—Raymond, Dept. 833-1. Seniority date Dec. 11, 1956, retired Aug. 31.

MORRIS—Clarence, Dept. 41-3. Seniority date Nov. 24, 1947, retired Aug. 31.

RANDALL—Burdett F., Dept. 14-3. Seniority date Jan. 3, 1951, retired May 22.

RINKER—Ken K., Dept. 146-4. Seniority date Feb. 3, 1947, retired Aug. 27.

SINGLETON—Phrona W., Dept. 34-5. Seniority date Aug. 3, 1951, retired June 13.

TOMPKINS—Wanda S., Dept. 60-4. Seniority date May 9, 1956, retired June 18.

YOUNG—Ruth M., Dept. 780-1. Seniority date July 20, 1956, retired Aug. 31.

Invention Disclosures

CONVAIR

CHRISTIAN—E. L., Dept. 491-0. Self-aligning System for Air Bearing.

EGLI—W. and G. B. YATES, Dept. 581-5. Sewing Machine Foot.

HANNAY—P. M., Dept. 562-2. Washer-Torque Indicating. Blind Fastener-Self Seating, Tapered.

McMANUS—N. J., Dept. 574-2. Intensity Sensitive Color Film.

Course Will Start In Self-Improvement

A Dale Carnegie course in self-improvement is offered all Convair people under the auspices of Convair Management Club.

The course sessions will be Monday nights from 5 to 8 p.m., beginning Oct. 18 and continuing for 15 weeks. Classes will be in the Kearny Mesa Bldg. 2 presentation room.

Special price for Management Club members is $150, a reduction of $45 over the regular price of the course. Nonmembers' reduced price is $160. Bank financing is available.

Classes will be restricted to the first 40 who sign, said Bob Williams, Management Club education committee chairman. All interested people may contact Williams at ext. 1122, Kearny Mesa, or through mail zone 586-00.

Atlas Readied For Its Role in Space Docking

(Continued from Page 1)

Convair representatives last week were at Air Force Space Systems Division in Los Angeles for a technical review of the Atlas, Agena, Titan and Gemini systems.

They also will be at the Cape for the Atlas-Agena launch as well as for a "simultaneous launch demonstration" about 10 days prior to launch in what will be a complete "dress rehearsal" countdown but not actual firing of the space vehicles.

B. G. MacNabb, Convair base manager for ETR, said the technical review and simultaneous launch demonstrations were scheduled to insure that the vehicles as well as the range and worldwide tracking equipment are in operational condition to support the dual launches and to assure that the Air Force and its associated contractors have done all possible to assure success of the Gemini VI program.

Division President J. R. Dempsey and C. S. Ames, vice president and program director for space launch vehicles, are scheduled to be at the Cape for the actual vehicle launches as are Keehn and E. R. McFadden, program manager, Gemini target vehicle.

Keehn and McFadden also plan to be at the Cape for the simultaneous launch demonstration "dress rehearsal." Thomas J. O'Malley, manager of space launch operations, will be test conductor.

Ames, MacNabb, O'Malley, Keehn, McFadden and Leonard O. Anding, supervisor for test evaluation were in Los Angeles for the SSD technical review. MacNabb and O'Malley visited the Kearny Mesa plant before going to Los Angeles for the review.

After the Agena is boosted into space by the Atlas SLV, it will be placed in an eliptical orbit with an apogee of about 160 miles and a perogee of about 80 miles.

Following one orbit of about 90 minutes to allow tracking stations to determine the exact flight path of the Agena, the Gemini spacecraft will be lifted and placed in orbit. O'Malley said the same ground guidance system will be used for both the Atlas SLV and Titan launches.

Schirra and Stafford, with aid of a small on-board computer and with radar and ground assistance, are to fire transitional thrusters to align Gemini's orbit with that of Agena. Application of small amounts of thrust then will allow Gemini to overtake Agena. Although the two vehicles will be traveling through space at about 17,500 miles an hour, their relative speeds will be only about a mile or two per hour different.

After the astronauts maneuver the index bar on the Gemini into a "V" notch on the Agena docking collar, clamps inside the collar will lock the two vehicles together. Electrical systems between both vehicles will mate, giving the astronauts full control of the combination Gemini-Agena.

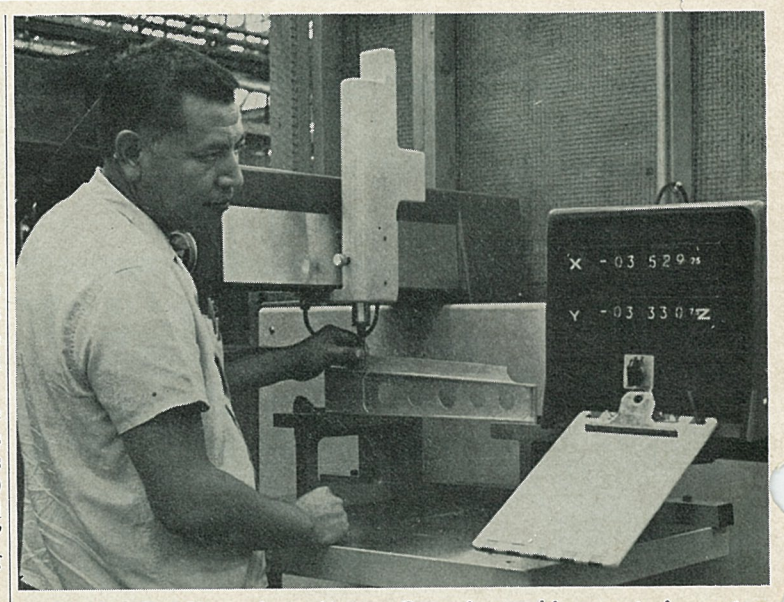
When the docking phase of the two-day mission is complete, the spacecraft pilots will unlock their spacecraft from the Agena by firing reverse maneuvering rockets, then will begin re-entry operations.

Keehn said the docking maneuvers may be performed several times by the astronauts.

Lindbergh Office Of GD/NEWS Moved

General Dynamics NEWS office at Convair Lindbergh Field plant was moved the middle of the month into Bldg. 5, second floor.

The main GD/NEWS office is now located at 5-2-D, around the corner from the engineering library. It had had quarters in Bldg. 32 the last 15 years. Phone extension remains 1071 and mail zone, 104-60.



CLOSE CHECK — Juan Meza, Convair machine parts inspector, measures C-141 part on new Cordax equipment in Dept. 015 to be sure it checks to blueprint. Measurements in inches appear automatically on face of display console.

Inspection Capability Expanded With Installation of New Machine

Convair's inspection capabilities at Lindbergh Field plant have been expanded with the installation of new measuring equipment.

The advanced Cordax measuring machine with automatic readout is now in use by machine shop parts inspection in Bldg. 1 for measurement check to blueprints of Dept. 015 parts.

Accuracy and speed of measurements are greatly increased over conventional hand measuring methods, explained J. J. Swarts, inspection assistant foreman. Accuracy is within plus or minus .0005 over a 25x19-in. working area.

Measurements can be taken fore and aft, laterally, or vertically. Readouts are made of any two axes simultaneously. Any movement of the probe is reflected in inches and decimals to .00025 instantaneously on the digital readout console.

The machine will be especially valuable in straight-line measurement checks, said Swarts.

Quiz Under Way On Fire Safety

(Continued from Page 1)

A. C. Anderson and D. D. Dimmitt.

Two firemen, one at Kearny Mesa and one at Lindbergh Field, are circulating throughout the plants and off-site locations all of this week and next testing employes' knowledge of safety regulations, location of fire extinguishers, and types of fire extinguishers used for the four major kinds of fires: water, paper and trash; flammable liquids; electrical current; and exotic metal fires.

A fire prevention trophy will go to the department making the best showing in the fire safety examination.

The trophy will be awarded Oct. 11 and will remain with the winning department until next year's observance of fire week.

Also, fire extinguisher demonstrations will be given to groups at both Convair plants upon request of supervisors and fire safety booklets will be passed out at all plant gates from tomorrow (Sept. 30) through Friday (Oct. 8).

"Most fires are not unavoidable accidents, but the result of neglect, carelessness, and ignorance of the fundamentals of fire prevention," S. R. Sharp, manager of industrial security, pointed out. "Your job, your life, and the lives of others depend upon your knowledge of what to do in case of fire.

"Every 57 seconds someone faces 'the moment of truth.' Prepare for this moment by becoming completely familiar with the first aid and fire equipment in your area; location of the nearest phone or fire alarm box and how to report a fire properly."

Nationally, estimated cost from fires totals more than five billion dollars each year, to say nothing of loss of some 11,800 lives from fire.

Salvage Yards Open From 8 a.m. to Noon

Alternating Saturday morning schedule for Convair salvage yards for the next four weeks is:

Kearny Mesa—Oct. 2, 16.

Lindbergh Field—Oct. 9, Oct. 23.

General Dynamics people may shop at either site from 8 a.m. until noon. No children are allowed in the yards.

Audit Program Begun For Navy

(Continued from Page 1)

The audit teams have prepared their own plans and will prepare reports that will enable the Navy to direct shipyards to take action to correct deficiencies or problems noted.

An orientation workshop was held for the audit team at the Kearny Mesa plant Sept. 14-17 by G. K. Langford, chief engineer for the product assurance branch of the Bureau of Ships, and George Krejci, Charles Zimmerman, Arnold Hazelwood and Warren MacMath of the assurance engineering field facility of the Philadelphia Naval Shipyard. Jerry Friend, Convair man now assigned as a consultant to the Bureau of Ships in Washington, also was present.

Kolsky said conducting the shipyard audits will give Convair "an opportunity to make a real contribution to the Navy's quality assurance program."

Savings, Stock Plan Data Stored on Tape

(Continued from Page 1)

changes necessary for electronic records-keeping for the new program.

Information on employe participation in the Savings and Stock Investment Plan actually will take up only a small part of a 2,400-foot reel of magnetic tape since 800 "machine language" characters can be stored on each inch of the tape!

"This information," Altland said, "will be integrated, however, with all of our other payroll data on the tape."

Robertson said any eligible employe may enroll or have the option or percentage of payroll deduction changed by giving 30 days notice to employe services prior to the start of a new quarter.

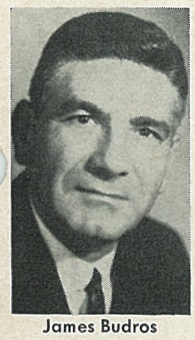
DISTRIBUTION OFFICE MOVES

Central distribution at Lindbergh Field plant has moved to the second floor of Bldg. 5, Aisle 5-2-G. Hours remain the same, 7:30 a.m. to 4 p.m. Telephone extension and mail zone are unchanged. Phone ext. is 2110; mail zone is 171-91.

Dynamics Men To Be Prominent When NMA Convenes at San Diego

General Dynamics will be widely represented at the annual convention of the National Management Association to be held Oct. 27-29 in the El Cortez Hotel, San Diego.

James Budros, Corporate director of compensation and personnel development, will conduct two Management Club leader sessions Oct. 28. Topic will be "The Role of Clubs in Furthering Company Objectives."



James Budros

L. Eugene Root, president of Lockheed Missiles and Space Co. in Sunnyvale, will be featured speaker at the annual club president's luncheon Oct. 28. He will be introduced by James R. Dempsey, Convair president, and will speak on "The National Management Association as a Company President Views It."

Other featured speakers will be Fred J. Mayo, president of Ingalls Shipbuilding Corp. of Pascagoula, Miss., and Dr. Kenneth D. Wells, president of the Freedoms Foundation at Valley Forge, Pa. Wells will be introduced by B. F. Coggan, a former Convair executive now with Douglas Aircraft Co.

W. E. Magnuson of Convair Dept. 140-0 is general chairman for the convention and L. H. "Chick" Allen of Dept. 210-0 is assistant general chairman and secretary.

J. R. "Bob" King of Dept. 832, president of the Convair Management Club, is program chairman with C. J. Stafford of Dept. 833-2 serving as his assistant. J. C. Duffy of Dept. 491-0 is promotion chairman.

Convair 'Do Good Work' Program Used as Model in Navy Project

Convair's "Do Good Work" program is being used as a model for a new Zero Defects program at Philadelphia Naval Shipyard.

Cdr. George M. McArthur and Lt. (j.g.) Charles M. Smith of the shipyard came to San Diego Aug. 23 and 24 to confer with Sam Petcher and W. E. Magnuson of Convair reliability control on the "Do Good Work" program.

A letter received this month from Cdr. McArthur said the shipyard's Zero Defects Committee is "most enthusiastic" about Convair's approach.

"I can honestly say that never before have I learned so much from observing a Zero Defects-type of program as I have from Convair's," Smith also wrote.

"Convair's 'Do Good Work' program would definitely be a credit to every firm in existence if they would expend the effort necessary to implement it," Smith said.

"In my opinion this isn't just something that is nice to have, this is something that everyone must have," he said. "You can be assured that all the effort and energies we possess will be put to their maximum use in striving to build a program as effective as Convair's."

SAE Sponsors Nat'l Meeting At Los Angeles

Several from Convair will participate in the 1965 National Aeronautic and Space Engineering and Manufacturing Meeting under auspices of the Society of Automotive Engineers Oct. 4 through 8 in the Statler Hilton Hotel, Los Angeles.

Paul Slysh, design specialist, and Victor M. Andreone, senior electronics engineer, are to present a paper on "Manned-Automatic Spaceborn Structural Assembly" Oct. 6.

G. J. Langford, manufacturing development specialist, will speak on "Joining of Superalloys and Refractories" on Oct. 4.

H. C. Courington, chief of configuration management, will talk on "Impact on Industry" in an Oct. 5 "Configuration Management" manufacturing forum.

J. C. Duffy, supervisor of manufacturing development, is to serve as chairman, Langford, as secretary and G. A. Grossaint, chief of manufacturing development, as organizer of a manufacturing forum on "Joining Dissimilar Metals" Oct. 4.

David J. Peery, chief of structural analysis, is chairman for a "Space Structures and Materials" presentation Oct. 6. Dean H. McCoy, chief of administrative services, is secretary and W. W. Withee, director of test operations, is organizer.

Four representatives of Pomona division are assisting with an Oct. 5 management forum on "Configuration Management." They are Raymond Soward, chief of documentation management, chairman; R. H. Thatcher, manager of administrative systems analysis, co-chairman; G. J. DeBell, supervisor of systems development for administrative systems analysis, secretary, and G. E. Sylvester, vice president of operations, organizer.

PAPER PRESENTED ON TAPE CONTROL

W. E. Kingsbury, Pomona division manufacturing development specialist, presented a paper Sept. 15 in Seattle at the Aerospace Industries Association of America technical symposium. Title of Kingsbury's paper was "Tape Controlled Heliarc Spot-welding of Missile Control Surfaces."

Pilots to Fly For Lebanese

Three veteran Convair flight crew men leave the company this week to fly Convair jet transports for a foreign airline.

Pilots W. B. Harwell, John Knebel, and Ludy Knudsen, long-time flight engineer, have joined Lebanese International Airways under a three-year contract. They will be flying two Convair 990s which the Lebanese line is purchasing from American Airlines, the first this fall and the second shortly after the first of the year. Present routes will take them from Beirut, the airline's headquarters, across Europe to London, and throughout the Near East.

Harwell has been with Convair over 23 years and headed production flight the last 12. Knebel, chief engineering test pilot on the Charger and the Convair 600, passed his 15-year anniversary Sept. 25. Knudsen would have marked 25 years next February.

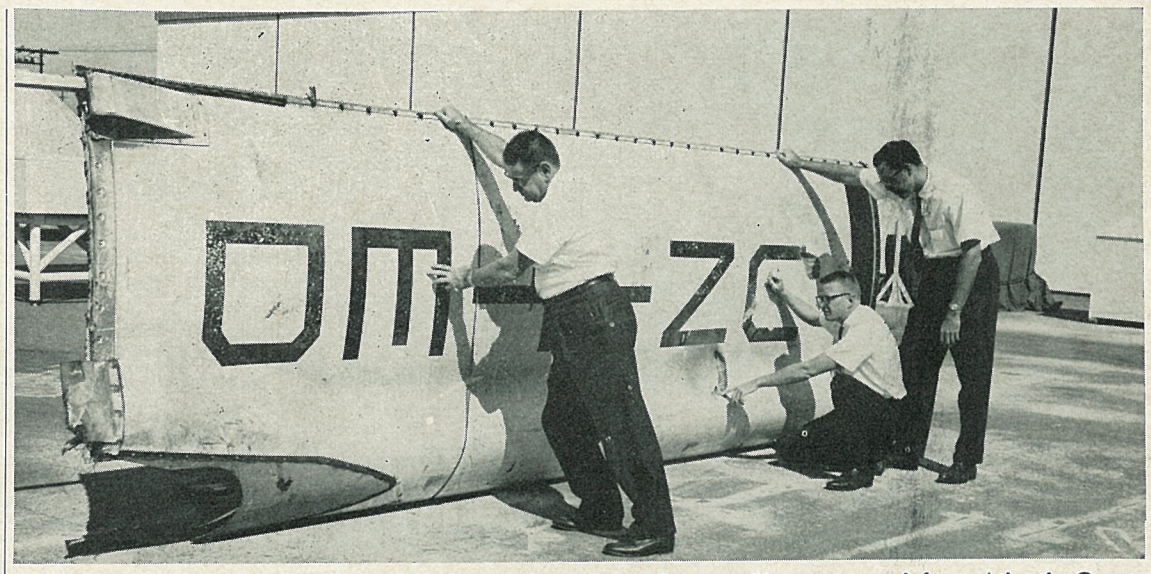
Vultee Club to Hold Annual Stag Reunion

More than 40 Convair division men are expected to attend the 18th annual stag reunion of the Vultee Club Oct. 16 at the Charter House in Anaheim.

P. A. Nagy of Dept. 146-0 said several hundred Vultee Aircraft Corp. alumni attend the annual reunion with some of them coming from as far as New York.

The reunion social hour will be at 5 p.m. with dinner at 8. Vultee Club members can make reservations by sending $5 to P.O. Box 4265, Whittier, Calif.

Vultee Aircraft in 1943 became a division of Consolidated Vultee Aircraft Corp., which later became Convair.



RETURN FROM SPACE — Insulation panel from Atlas-Centaur Six, recovered from Atlantic Ocean 10 days after launch, is examined by, left to right, John A. "Jack" Brady of NASA, Richard E. Jumont of NASA and G. W. "Bill" Norris, Centaur design group engineer from Convair Dept. 961-8.

B-58 Crew No. 1 In Navigation In SAC Contest

A crack crew from 305th Bomb Wing flew a B-58 Hustler to first place in navigation and third spot overall in Strategic Air Command's Bombing-Navigation competition.

The 14th competition was held at Fairchild AFB, Spokane, Wash. Sept. 12-18.

Maj. Mackie L. Sorrell was aircraft commander on the 305th Hustler out of Bunker Hill AFB, Ind. Crewmen were Capt. Donald A. Itzen, navigator; and Maj. George R. Green Jr., DSO.

Another B-58 entry from 43rd Bomb Wing, Little Rock AFB, Ark., finished in the upper 25 per cent in overall competition. Crew was Maj. Prentice H. Farris, aircraft commander; Capt. William G. Potts, navigator; and Capt. William R. Wirth, DSO.

The two B-58s were competing against 42 other airplanes—37 B-52s and 5 B-47s.

"Considering these odds," an Air Force spokesman said, "the B-58s did a tremendous job."

This year's competition marked the second in which B-58s have participated.

In 1960, shortly after becoming operational, Hustlers from the 43rd Bomb Wing chalked up the top individual high-level navigation run and a pair of top radar bomb scores. A B-58 entry compiled 1,046 points in overall competition, only 137 points behind the winning B-52 entry.

This year's competition was the first held since 1961.

AC-Six Insulation Panel Recovered From Atlantic

An insulation panel from Atlas-Centaur Six, recovered Aug. 21 from the Atlantic Ocean about 500 miles northeast of Cape Kennedy by the destroyer USS DuPont, has been returned to Convair's Kearny Mesa plant for analysis.

G. W. "Bill" Norris, Centaur design group engineer, said the Centaur engineering staff was pleased to have the panel returned in order to evaluate cutting effectiveness of a new simplified explosive shape charge severance system used on such panels for the first time in the AC-6 flight.

James Herron and John Hughes, both senior design engineers in Dept. 961-8 at Kearny Mesa, played key roles in designing the new explosive charge system. Manufacturing and development work was done by the Fort Worth division.

Four of the insulation panels with a honeycomb-type foam-filled fiber glass interior were used to shield the hydrogen fuel tank in the AC-6 during approximately the first three minutes of flight.

The four explosive charges, covering 127 linear feet of space around the insulation panels, were fired electronically when AC-6 was about 55 miles above the earth where heat from aerodynamic forces no longer poses a problem. The charges fire at about 25,000 feet per second along their "cutting edge."

Shedding of the no-longer-neccessary weight early in the flight is a concept that enables Centaur to carry 14 pounds of payload for every 15 pounds of discarded insulation.

The insulation panel picked up by the DuPont was located in the Atlantic 10 days after the launch and was trucked across country to San Diego.

William Early, a shape-charge engineer from Fort Worth division, flew to San Diego to assist local engineers in examining the panel. He found that the new shape charges had fired perfectly around all cutting edges although excess sealer material was found behind one of the cutting areas.

Norris said the recovered panel had withstood ascent and descent through the atmosphere well. "It was a bit weathered, with some evidence of aluminum corrosion from the 10 days in the sea but it showed little evidence of charring from heat," he said.

AC-6 was launched Aug. 11 from Cape Kennedy in what has been termed a "perfect dress rehearsal" for the first Surveyor flight toward the moon.

Fatigue Specialist Attends Symposium

Clarence Smith, Convair fatigue specialist, is attending the International Symposium of the Society of Experimental Stress Analysis in Washington, D.C., Sept. 28-Oct. 1 in his capacity as international chairman for organization of new local sections.

On his return trip to San Diego he will stop at Huntsville, Ala., next week (Oct. 4) to give the main speech at the organizational meeting of the new Huntsville section. His subject is "The Role of Experimental Stress in Solving Fatigue Problems."

S-C Enters Field of Providing Better TV For Areas Handicapped by Terrain

Stromberg-Carlson has entered the community antenna television (CATV) field in association with Entron, Inc., Silver Springs, Md.

Under terms of the association, Stromberg-Carlson, using some Entron-developed equipment, will finance, engineer, furnish and install complete CATV systems for telephone operating companies.

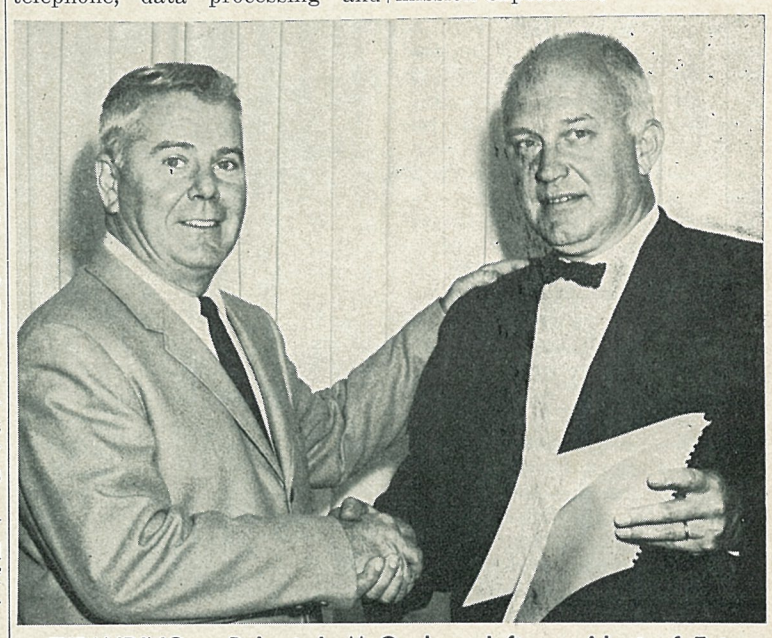
The CATV systems are designed to improve and increase television reception in areas where terrain or other interference has hindered television quality and limited the number of channels available for viewing.

William A. Rockwood, vice president of Stromberg-Carlson's Telecommunications Group, and Robert J. McGeehan, Entron president, said in a joint announcement that many Independent telephone companies are looking at CATV as a way to provide new communications for their areas and to improve TV reception.

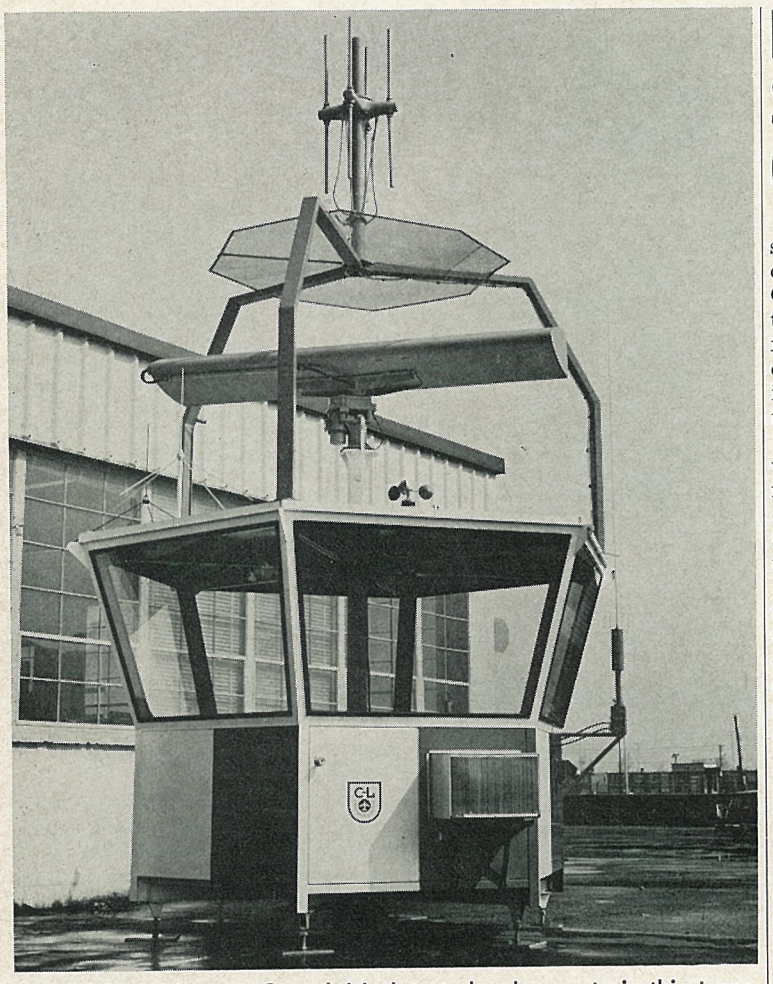
Service provided by a CATV system is superior to that enjoyed by homes within direct range of a station, Rockwood and McGeehan said.

Entron, Inc., was founded in the early 1950s and, within the industry, is regarded as a pioneer in the CATV field. Entron equipment that Stromberg-Carlson will use in the CATV systems include high-power tubes and solid-state all-band amplifiers.

Stromberg-Carlson, producer of telephone, data processing and communication systems, has provided a variety of communication systems to the Independent telephone industry since 1894, and has a national and field sales engineering organization with transmission experience.



EXPANDING — Robert J. McGeehan, left, president of Entron, Inc. discusses entry of Stromberg-Carlson into television field with William Rockwood, S-C vice president, Telecommunications Group.



MOBILE — Among Canadair's latest developments is this transportable airfield control tower. It is completely self-contained with own radar, VHF visual direction finder, radio beacon, etc.

First Apollo Ship Floated Out of Basin

The nation's first Apollo Instrumentation Ship was floated out of its building basin at the Quincy Yard this month to begin the final phase of its conversion from an oil tanker to a floating electronic island which will assist in the tracking of astronauts to the moon.

The newly named Vanguard was moved out of the basin to a nearby pier where it will be equipped with the many electronic systems which will make it equal to its land-based counterparts.

Vanguard was floated out of the basin exactly one year after the government had awarded a contract to General Dynamics to convert the vessel for the Apollo mission. This ship originally was a T2 tanker built during World War II. It was last actively in service in 1956 and was selected for conversion to an instrumentation ship last year.

The contract is being performed by several divisions of General Dynamics: Electronics division of Rochester, N.Y., prime contractor and responsible for complete systems integration; Electric Boat division, ship construction; Convair division, large antenna structures; Stromberg-Carlson telephone and intercommunication equipment.

Conversion work began last November. A 303-foot midbody section was removed from the ship and replaced by a new section which extended the vessel's length from 523 feet to 595 feet. The new midbody will house tracking, communications, telemetry, navigation, and data processing equipment. It also will provide living and recreation areas for the crew and for scientists.

Scheduled for completion early next year, Vanguard eventually will be deployed southeast of Bermuda when American astronauts head for the moon.



PAD 2 OK — Maurice E. Barnes (seated left) signs papers for Air Force technical approval team accepting Pad 2 at VAFB. Pad was recently converted by Convair from Atlas series D to series E and F capability. Seated with Barnes is R. J. Carins, contracts, WTR. Others are (standing from left) V. C. Cardiel, quality control; Mrs. Jeanne Barbour, BSD procurement office; Richard Clark, site manager; L. T. Cheung, ABRES program office San Diego; D. G. Moore, contracts, San Diego; Capt. Ed Houston, BSD; and Capt. William Sparkman, 6595th Aerospace Test Wing.

Centaur Inspector's Diligence Earns Special Individual Honor

J. L. Parker's job is to inspect Centaur panels made at Fort Worth division for Convair.

But the Dept. 29-5 assembly inspector does more: he routinely takes a look at the assemblies in the planning, or engineering-drawing phase.

In this way, he recently detected a "planning error" that, if carried out, would have resulted in a faulty assembly — and expensive rework.

Thanks to Parker's "diligent attention to his work," the error was caught before shop started to work on the part.

For such efforts, Parker was recently awarded the Good Design/Fine Workmanship individual award by Earl Weiher, manager of quality control. He was recommended for the honor by C. O. Tomerlin, Dept. 29-5 supervisor.

"He helped eliminate potential errors that could have had serious schedule and quality impact on our program," Tomerlin said.

Weiher added that Parker's efforts have helped "establish the high quality standards and accuracy of workmanship reflected in our product."

Rebuttal

Wind Tunnel Dates to 1871 Claims Irate Canadair Man

(GD/NEWS of June 23, 1965, carried a feature story regarding claims that J. G. Weisinger, uncle of Don Weisinger, Convair engineer, was the inventor of the wind tunnel. In the following letter, David W. H. Godfrey of Canadair takes strong exception.)

"The first wind tunnel was built in 1871 (the year Orville Wright was born) by F. H. Wenham and John Browning, in England. It was Wenham who interested Octave Chanute in flying and it was Chanute's book "Progress in Flying Machines," published in 1894, which influenced the line of development taken by the Wright brothers.

"The Wrights built a series of experimental gliders based on data then available and discovered that much of this information was misleading or in error. So, between September, 1901, and August, 1902, they undertook a comprehensive research program with flying models and wind-tunnel tests. Backed by the results of these experiments, they went ahead with their historic 1903 airplane.

"It is important to note that Wilbur and Orville Wright were not merely bicycle-makers who stumbled on success without understanding why they succeeded where so many had failed. They were dedicated engineers who were not content to blindly accept the findings of others; so, they built their own models, wind tunnel, gliders, aero-engine and powered aircraft. Perhaps their most significant contribution to the advancement of aviation was that they elected to develop a nominally unstable airplane and equip it with controls, rather than to incorporate inherent stability with little control.

"In view of the above, it is not only historically wrong (by a period of nearly 60 years) to 'recognize' J. G. Weisinger as the inventor of the wind tunnel, it is to denigrate both the true inventors (Wenham and Browning) and also the perspicacity of the Wright brothers.

"Lest anyone should claim to have 'invented' the smoke tunnel in recent years, the true originator of this means of flow visualization was Prof. Etienne J. Marey, in France, about 1873. A book by Prof. Marey, Animal Mechanism, was studied by the Wrights for its rapid-sequence photographs of birds in flight."

Electronic Printers Ordered by Burroughs

Stromberg-Carlson Corp. has sold fifteen S-C 3070 Electronic Printers to the Burroughs Corp. in Paoli, Pa., according to Carl V. Shannon, manager of Data Products at San Diego.

Total amount of the sale is over $287,000.

The printers, which will be built in San Diego, will be used with five data processing systems the Burroughs Corp. is manufacturing for the U.S. Navy Bureau of Ships. The systems are commonly known as D825 Modular Data Processing Systems.

The S-C 3070 is a non-impact printer which employs an electrostatic process and a CHARACTRON Shaped Beam Tube to print at speeds up to 5,000 words per minute.

NAVY ORDERING ASW RADIO SETS

Electronics division has announced the receipt of a letter contract from the U. S. Navy Aviation Supply Office, Philadelphia, Pa., amounting to $594,000 for production quantities of AN/ARR-52A radio receiving sets. The sets will be used in anti-submarine warfare aircraft to detect and track underwater targets by the reception of signals from sonobuoys.

Progress in Stress Program Reviewed

Col. M. E. Fields, associate director and head of the AF Materials Laboratory's Manufacturing Technology Division, Wright-Patterson AFB, and Harold Schwartzbart, assistant director of Illinois Institute of Technology's Research Institute, reviewed progress of Convair's residual stress studies last week.

They were in San Diego Sept. 21 to consult with Dr. Charles Yang, Convair senior staff scientist, materials and processes, who is in charge of the current study project as principal investigator **(GD/NEWS, Sept. 15).**

They also met with Convair men heading research functions, including W. W. Withee, director of test operations, and Dr. R. C. Armstrong, chief of life sciences, and toured materials and processes laboratories at both Convair plants.

Mgt. Club to Sponsor Course Series at Kearny Mesa Plant

An investment seminar and courses in "Conference Techniques" and "Effective Writing" will be offered without charge for Convair Management Club members beginning next week at the Kearny Mesa plant.

Frank A. Sortino of Hayden Stone Inc. will conduct the five-week investment seminar from 5 to 7 p.m. Wednesdays beginning Oct. 6 in the Bldg. 2 presentation room. Attendance will be limited to 50.

Vincent A. Martin of educational services will instruct for the eight-week "Conference Techniques" course from 5 to 7 p.m. Mondays beginning Oct. 4 in Room 3, Bldg. 17. The class will be limited to 15 persons.

Emory Thurston of educational services will teach the eight-week "Effective Writing" course from 5 to 7 p.m. Tuesdays beginning Oct. 5 in Room 3, Bldg. 17. It also will have a 15 student limit.

Additional information can be obtained from R. M. Williams, chairman of the education committee of the Management Club, ext. 1122, Kearny Mesa.

FAA Pilots Check Out In Prototype of 600

Three Federal Aviation Agency pilots are the first pilots to receive FAA approved rating on the Convair 600 aircraft, turbojet Convair-Liner equipped with Rolls-Royce Dart engines.

Charles House of the FAA Western Region; James Stevenson and John Stoltze, both of the Southwest Region, flew five hours apiece in the Convair Dart prototype the week of Sept. 6 at San Diego.

Convair Pilot Loren Pilling checked out the FAA pilots on the plane.

Wives at Lancaster Helping Newcomers

Mrs. Gordon Hubbard was recently elected president of the newly formed Wives Club of Lancaster, Calif.

Other officers are Mrs. Joseph Grace, vice president; and Mrs. Jack Dye, secretary-treasurer.

Thirty-three attended the get-acquainted meeting Sept. 16 at the Sands Bowl.

"Families moving from Fort Worth to Lancaster are invited to contact one of the officers if they desire housing information or need assistance in getting settled," Mrs. Dye said.

Convair Men Named Officers of Society

Charles Taylor, graphic reproduction supervisor at Convair, heads the San Diego Chapter of the Society of Reproduction Engineers as chairman for the new club term. Three other Convair graphic reproduction people also were elected to office.

Installed Sept. 20 besides Taylor, were Herb B. Day, Dept. 223 supervisor, second vice chairman; Bob Lykins, Dept. 123 assistant supervisor, treasurer; Dolores Ries, Dept. 223 offset machine operator, secretary.

Next dinner meeting will be Oct. 18 at Freddie's Restaurant in La Mesa.

CRAFTSMANSHIP

DO GOOD WORK

S-C to Demonstrate 4400 in Germany

Stromberg-Carlson will demonstrate its S-C 4400 Document Recorder for the first time in Germany Oct. 13-19 at INTERKAMA 1965, the Third International Congress and Exhibition for Instrumentation and Automation at Dusseldorf.

S-C will demonstrate how the S-C 4400 translates computer language into ordinary words and symbols and then records the information directly on microfilm. Operating at a rate of 62,500 characters per second, it is capable of producing 50,000 filmed documents or more in one eight-hour working shift.

Fully operational, the demonstration model will also show how an internal slide projector automatically superimposes the image of any business form over a film frame under program control.

Seven at FW Division Earn Their Masters

Seven employes at Fort Worth division recently received master of science degrees from Southern Methodist University.

John M. Wilson Jr., Dept. 160, received a master's degree in aeronautical engineering.

Master's degrees in mechanical engineering went to Jackie E. Garner, Dept. 162-1, and John A. Grant, Dept. 62.

Receiving master's degrees in electrical engineering were: James T. Bonner, Dept. 65; Beryl W. Cotton Jr., Dept. 62; Wayne E. Finkboner, Dept. 62; and Norman G. Hartwell, Dept. 160.

Teamwork Earns $590 Cash Suggestion Award

Teamwork has paid off in a $590 Employe Suggestion joint award for GD/Pomona's B. N. Stice and W. R. Jackson (both Dept. 6).

To earn the award, Stice and Jackson suggested a method of eliminating and printing, filing and storage of large number of documents in Bldg. 4 blueprint files. They suggested that single copies of each document be kept and requested copies be reproduced as required.

Installation of the idea is expected to result in estimated first-year savings of $5,551 plus intangible benefits in improved service.

Previously blueprint files maintained approximately 40 copies each of 25,000 different documents. These included blueprints, change orders, general change analysis, general release analysis, test equipment change analysis, test equipment release analysis, design control notices, engineering department notices, engineering department instructions, purchase part control forms and item identification drawings. Monthly, 40 copies each of 3,300 different documents—132,000 copies—were received and an estimated million copies were on file. The copies not used meant wasted space, material and manhours for printing, sorting and filing.

Now single copies of each document are filed in a looseleaf binder near a copying machine. When a request is made, the clerk removes the document from the binder and reproduces copies in seconds.

Canadair Man Ends Tour at Convair

Pierre Racine of Canadair, one of three assigned to different General Dynamics divisions for 10 months industrial management training, has left Convair to return to Montreal.

During his period in San Diego, Racine rotated among many different departments spending time in each one to gain broad experience in management methods.

"Before leaving, time prevented me from saying goodbye to the many individuals who were so helpful and informative during my stay," he said. "I want to thank them all for a very rewarding experience."



COST CUTTERS — W. G. Kemmer, left, publications graphics supervisor, B. N. Stice and W. R. Jackson inspect copying machine which eliminates need for printing, filing and storage of large quantities of documents in Bldg. 4 blueprint files. Stice and Jackson shared $590 Employe Suggestion award for their idea.

Convair Doctoral Fellowship Sends Engineer Back to College

Jack F. Ingber, a senior research engineer in Centaur aeroballistics Dept. 966-5, has been awarded a Convair doctoral fellowship to study at the University of California at San Diego for a PhD in aerospace and mechanical engineering.

Ingber will begin the three-year course Oct. 4. He will receive $4,000 per year from the fellowship.

A 1959 graduate of Rutgers University, Ingber received his master's degree from the University of Oklahoma in 1963 and has been employed at Convair since that time.

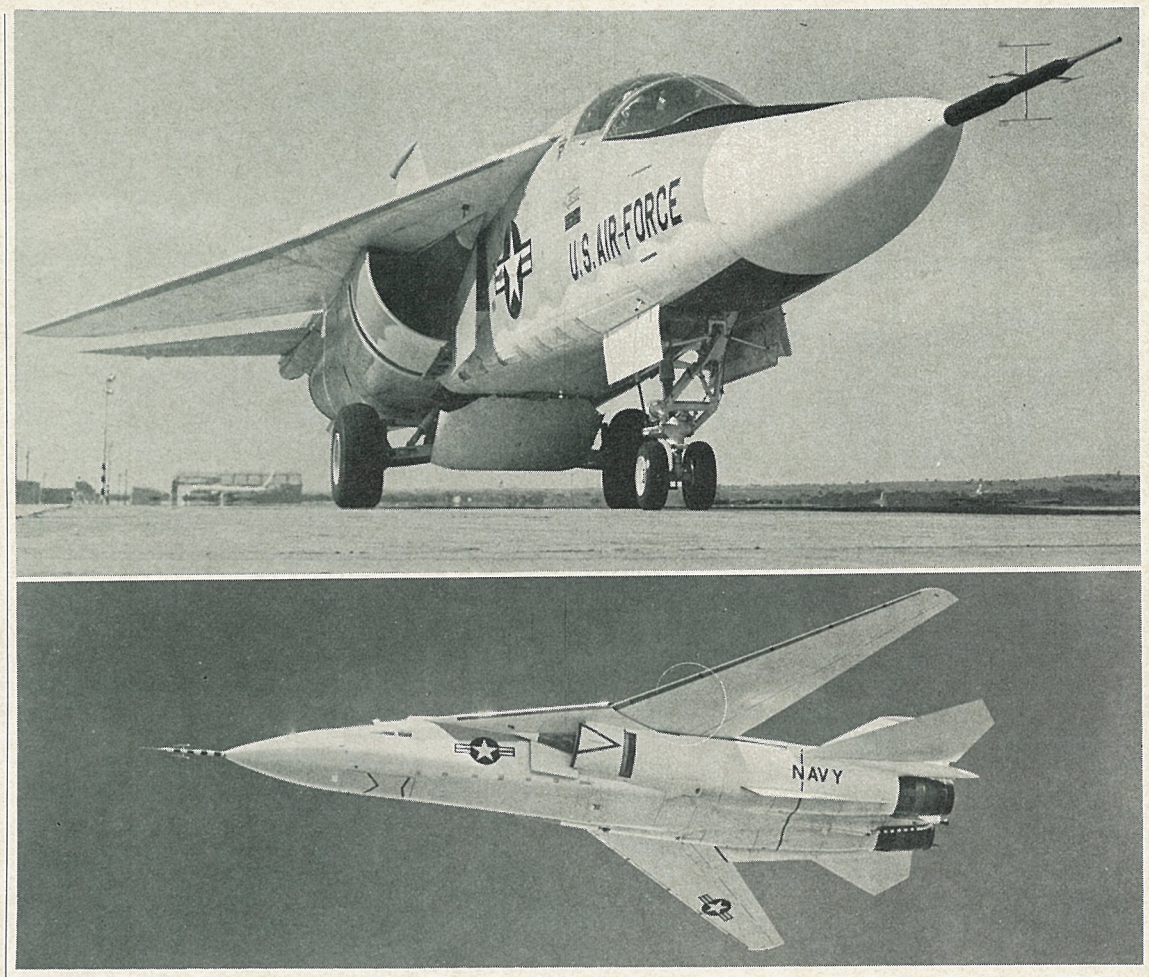
Ingber lives with his wife, Sybil, and one-year-old son, Jonathan, in Clairemont.

Continuing study for the second year under the Convair doctoral fellowship program are Leon Montgomery, who is working toward a PhD in information, storage and retrieval, at University of Pittsburgh, and Archibald Gay, who is working toward a PhD in mechanical engineering at University of Southampton, England.

Atlas-Centaur Role Told by Dr. Olson

Atlas-Centaur's proposed role in placing a Surveyor spacecraft on the moon was discussed by Dr. Walter T. Olson, assistant director of NASA's Lewis Research Center, in a Sept. 14 address to 75 members of the Harvard Business School Club in Cleveland Ohio.

The club is composed of corporate executives and Harvard alumni.



BUSY BIRDS — F-111s continue to pile up flight time, totaling 221 hours, 53 minutes as of Sept. 20. At top is Air Force version with Navy version shown below.

F-111 Engine Successful In 'Most Difficult' Test

The Pratt & Whitney Aircraft TF30-P-1 turbofan engine, powerplant for the F-111, has successfully completed the official ground endurance tests required for its qualification, Air Force announced recently.

Testing called for successful completion of two separate 150-hour tests, one of which had to be conducted under simulated flight conditions.

Because of the broad scope of operating conditions required of the F-111, the latter test was said to be the most difficult and demanding ever undergone by an aircraft engine and included 12½ hours of full power at 1.2 flight Mach number at sea level.

The TF30-P-1, in the 20,000 pound thrust class, is the first afterburning turbofan engine to complete official 150-hour qualification testing.

In the first of the two required 150-hour runs, the engine was calibrated on the test stand to establish the operating levels and then run for 81¼ hours at sea level conditions in static test at a wide variety of thrust conditions for varying lengths of time.

The engine was then moved to P&WA's Willgoos Turbine Laboratory, where it was run for 68¾ hours at both sea level and high altitude conditions at simulated supersonic speeds.

The second 150-hour test was conducted on another TF30-P-1 engine in the static test stands under sea level conditions and followed a well-defined schedule of engine operations over a wide variety of power ranges — from engine start through idle, cruise, maximum power without afterburner and maximum power with afterburner. The tests were conducted in six-hour cycles, as required by the military specifications.

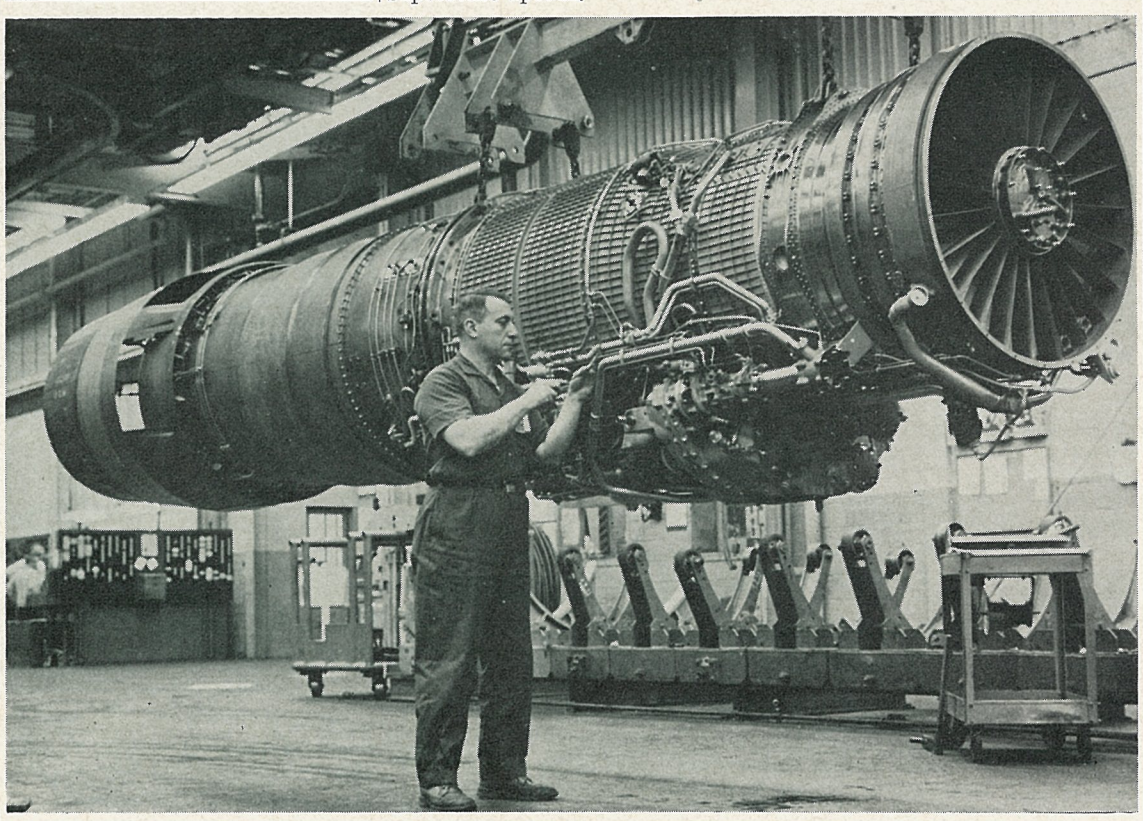
At the conclusion of both 150-hour runs, the engines were recalibrated to verify the levels established when the tests began. They were then disassembled for inspection by the government.

New Schedule Set At Lindbergh Field

Lindbergh Field plant's employe services outlet in Bldg. 16 now is open three days a week and half days on the other two.

Hours on Mondays, Wednesdays, and Thursdays are from 8 a.m. until 4:30 p.m. On Tuesdays and Fridays the employe services counter is manned in the mornings, 8 a.m. to 12:15 p.m.

Kearny Mesa plant's employe services in Bldg. 8 is open, as usual, every week day from 7 a.m. to 4:45 p.m.



QUALIFIED — TF30-P-1 advanced afterburning engine, built by Pratt & Whitney for F-111, has successfully completed official ground-endurance tests required for military qualifications.

F-111 Activity At Edwards AFB Due to Increase

F-111s amassed 221 hours, 53 minutes of flight time on 163 test flights through Sept. 20.

Of the total flights, 145 were by Air Force F-111s, while 18 were by a Navy version of the variable-wing fighter. Supersonic speeds were attained on 52 flights.

"Overall, the flight-test program is moving along satisfactorily," said R. W. Moller, manager of F-111 flight test. "We've had some good successes in our operations and in our systems."

Reliability of the F-111 — including routine operation of the sweep-wing — is also one of the high points of the test program, Moller pointed out.

"We've had flight after flight without discrepancies," Moller said, "which is rather unusual at this point in a test program. For example, one F-111 recently attained Mach 2 speeds twice on each of two flights in one day."

Moller said engineers were making progress on a number of "engineering problems" encountered in the testing program. "Once these are solved," he said, "we can probably look forward to an acceleration in the test program."

At Edwards AFB, Calif., F-111 No. 4, equipped with a Navy wing, continued a series of high-lift tests. "Now that preliminary testing and instrumentation have been worked out, this program should move along rapidly," said Moller.

Activity at Edwards is expected to increase in the weeks ahead as more F-111s make their appearance at the California test site.

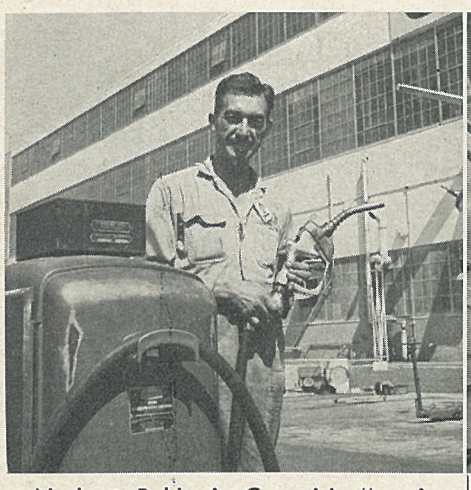
F-111 No. 1, carrying out flutter and propulsion tests at Fort Worth division, will be ferried to Edwards for the low-altitude flutter-testing phase. And F-111 No. 3, retrofitted with a new attack radar system, is slated to start testing at Edwards early in October.

At Fort Worth, F-111 No. 2 continued flights for propulsion and stability and control. No. 7 airplane is scheduled to make its initial flight sometime in October.

No. 5 F-111 is being flight tested at Fort Worth, preparatory to a full-scale subsystems testing of the electronic counter measures and traffic control systems at Eglin AFB in Florida. C. C. Widaman will be base manager.

F-111 No. 6, which will be the "loads" airplane, is being heavily instrumented at Fort Worth.

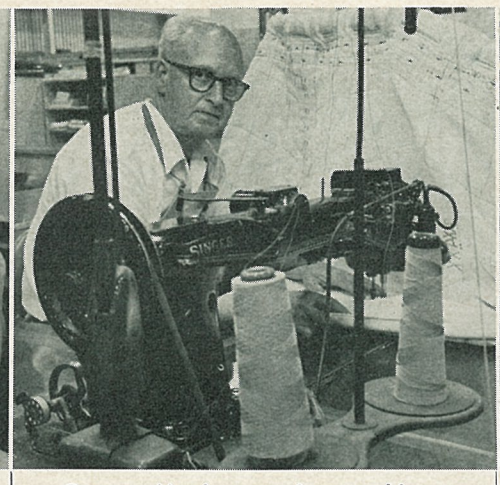
The Navy F-111 is undergoing tests at Calverton, N. Y. by Grumman Aircraft Engineering Corp. personnel.



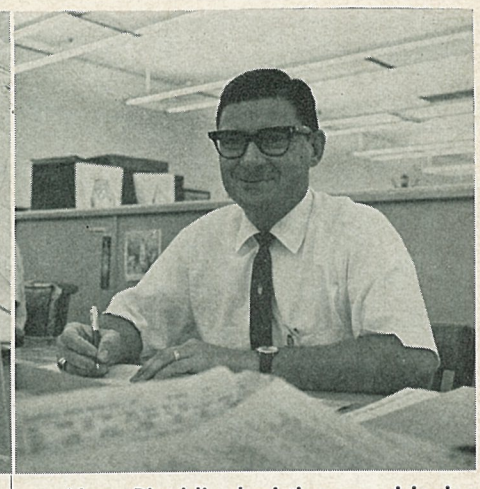
Norbert Pohle is Convair's "service station" attendant at Lindbergh Field. He gets to work at 6 o'clock every morning to gas the rolling stock before the drivers arrive at 7. He probably pumps 400 gallons of gas a day, he says. He uses the gas service truck to tank up all the trucks, hysters, tow tractors, die loaders in the transportation yard first. Then, he services the fire trucks, power units on the flight line, and Harbor Drive Test Site equipment. He goes on to Plant 19 during the lunch period to fill up the vehicles there. The rest of the shift he mans the gas pumps at the plant garage near Gate 5. Pohle received his 15-year-pin Aug. 29. Since the death of his brother, George, a former Convair employe in production control, he has lived alone.



Bernadette E. McKeown, an electronics assembler in Dept. 780-1 in a "clean room" of Bldg. 33 at the Kearny Mesa plant, has been a Convair employe more than 15 years and has an outstanding work and absentee record. She originally went to work for Convair Dec. 6, 1941, the day before Pearl Harbor, and she has been employed continuously since 1950. Her husband, Charles, also was a Convair employe 11 years. Mrs. McKeown, who is shown here assembling a distribution box for the SLV, came to San Diego from Pittsburgh, Pa. She has lived in Mission Hills since moving to San Diego and enjoys music, knitting and dancing. She has a son, Charles, 24, who works for an advertising firm in Los Angeles. She received her 15-year pin in May.



George Monk, a sewing machine operator in Dept. 759-0 at Kearny Mesa, has 30 years experience in sewing and formerly operated his own cleaners and dyers company in Central Falls, R.I. Monk is shown here sewing on one of three missile boots that go around a launch vehicle engine to keep it from overheating on takeoff. The fiber glass cloth boot will burn away and fall off about 120 seconds into flight. Monk has been with Convair more than six years and was a truck driver at the Sycamore Canyon test site before taking his present position. He has received four Employe Suggestion awards for improvements in the department. A great grandfather, he lives with his wife, Marie, in the college area and has a married daughter also living in San Diego.



Alex Rinaldi, logistics provisioning representative in Convair service parts at Lindbergh Field plant, has spent 10 years helping supply the customers' needs — first military and now commercial 880/990 operators. He was assigned to Boston the first of last year as on-site logistics service rep during repair of a TWA 880, and more recently was at Kansas City coordinating supply of parts for the No. 1 880 conversion. Rinaldi came to Convair from Griffiss AFB, Rome, N.Y., where he had been in provisioning and requirements as an Air Force civil employe. He, his wife, Helen, and children, Valerie, 15, and Sandy, 6, make their home in Clairemont. They spend most of their weekends clearing their mountain lot in Lawson Valley, near Alpine.

'Estate Plans' Series Slated By Mgt. Club

Convair Management Club will sponsor a series of free lectures on "Estate Planning" for the benefit of members the first three Monday evenings in October.

Recognized authorities will discuss a different phase of the subject each evening. Lectures will be held in the Bldg. 2 presentation room at Kearny Mesa from 5 to 6 p.m.

Dates and subjects are: Oct. 4, "The Influence of Income," by John H. Drummond, chartered life underwriter and registered investment adviser; Oct. 11, "Opportunities for Today's Investor," by J. Joe Sinclair of Shearson Hammill, Inc., stock brokers; Oct. 18, "Property Ownership and Transfer," by Stephen L. Newnham, attorney with the firm of Haskins, Lewis, Nugent & Dale.

Although registration may be made at the lectures, Bob Williams, Management Club education committee chairman, asks that all planning to attend notify him in advance. If necessary, larger quarters will be obtained. Williams may be reached at Kearny Mesa ext. 1122, or mail zone 586-00.

Bicycle Riding Group Proposed—Interested?

Convair families who would be interested in joining a proposed CRA-sponsored bicycle riding group are asked to call Inez Schurr at ext. 1111 to give their names, work department and plant phone extension.

H. A. "Pete" Beyrer of CRA Headquarters said the riding group, if organized, might tie in with the American Youth Hostels organization and will plan periodic cycle tours to points of interest.

If enough employes indicate an interest, they will be advised later of time and place for an organizational meeting.

Convair Wives Plan Bus Journey to L.A.

Convair Wives are planning a bus tour to Los Angeles Oct. 13 to see Art Linkletter's "House Party" television program, visit Farmers' Market and have dinner at Knotts Berry Farm.

The bus will leave from CRA Clubhouse at 7:30 a.m. and will return about 10 p.m. Tickets are $3.50 each and may be obtained by calling Mrs. Joe Heatherly at 453-3012 or Mrs. Jean Jones at 582-1976.

Mabel Jenkins, 52, Great Grandmother!

Mabel Jenkins of Convair Dept. 780-1 has achieved a state given to few women at 52—she's a great grandmother!

Her 17-yr.-old granddaughter gave birth last week to a 7-lb. boy to make five generations living, from Mrs. Jenkins' mother, 79, to the new infant. Mrs. Jenkins, an electronics assembler at Convair the last 10 years, said that she had to start young to do it. She was married at 15, her only son at 17, and her granddaughter at 16.

Zorrilla Wins Diver Race by 8 Minutes

Jorge Zorrilla, Delta Divers' president, beat out the competition by eight minutes when he spent only 18 minutes capturing his limit of five abalone in the Sept. 19 abalone race off La Jolla Shores.

Bill Howard was second with 26 minutes, and Larry Blackburn, third, 32 minutes. Francis Harvey, Chuck Davis, Rod Johnson came in fourth, fifth, and sixth out of 17 divers competing.

Howard, Blackburn, and Johnson brought in the most pounds of edible fish in the spearfishing meet Aug. 29 at Casa de Manana, La Jolla. Largest was Blackburn's 9½-lb. sheepshead.

A picnic is planned for the skin diving group and their guests Saturday (Oct. 2), noon, at La Jolla Shores. Members planning to attend are asked to notify one of the club officers this week.

Next meeting will be Oct. 13, 7:30 p.m., CRA Clubhouse, Kearny Mesa.

Coggan Will Speak For Quality Society

B. F. Coggan, vice president of Douglas Aircraft Co. in Santa Monica, will speak on "Competitive Communism—1965 Style" at a meeting of the San Diego Section, American Society for Quality Control, Oct. 8, in the Community Concourse Convention Center.

Coggan previously served as president and division manager of Convair and as a member of the Board of Education of the San Diego Unified School District. He is an adviser to the Department of Defense and to other governmental agencies and has done extensive traveling in Russia.

R. H. Gilliland, manager of reliability control quality assurance for Convair, will be moderator. A social hour is scheduled for 6 p.m. with dinner at 6:30. Society members can obtain tickets from their local ASQC booster.

Eight Value Teams Scrutinize Production Items in Workshop

Thirty-eight Convair management employes and the vice president of a San Diego industrial plastics supply firm last Friday completed the 44th two-week Value Engineering Workshop sponsored by educational services at the Kearny Mesa plant since the program's inception in 1960.

Workshop "students" were divided into eight teams, each with a selected production item to analyze, in an attempt to determine how it may be produced or purchased at lower cost while still meeting all necessary functional criteria.

The plastics firm official, Jack Ridout of Ridout and Co. Inc., termed the workshop "very stimulating" and a cost reduction and value control program that should be "very beneficial to everyone involved from the supplier to the end user."

Representatives from 25 supply firms exhibited their products and conferred with the workshop groups Sept. 17. About 200 other Convair supervisory employes also visited the exhibits during a 2½-hour "open house" in the afternoon.

H. E. Moose, director of material, challenged the supply firm representatives to question component and process requirements submitted to their firms by Convair for bid, evaluation or procurement. "This questioning attitude is sure to promote the basic premise of value control which is 'perform the essential function at the lowest possible cost,'" he said.

Everett Lindem of educational services, Dept. 130-3, served as workshop coordinator and as an instructor. F. M. Boley of Dept. 964-4, D. G. Tessereau of Dept. 410-0, William Garcia of Dept. 550-0 and F. J. Denny of Dept. 147-0 each served as project leader for two groups.

Although formal workshop sessions were held in the CRA Clubhouse auditorium, the teams visited plant areas where the production items they were evaluating are built or used.

Teams and their projects were:

Team No. 1—OV1 door hinge (submitted by engineering). F. W. Sterling, Dept. 192-0; R. C. Asker, Dept. 146-1; D. C. Basore, Dept. 403-1; S. B. Hodge, Dept. 126-0, and J. E. Barnes, Dept. 522-8.

Team No. 2—Dual binary counter (submitted by engineering). C. F. Kosen, Dept. 544-5; W. N. Fisher, Dept. 493-0; Uhro Hammer, Dept. 967-1; C. A. Stewart, Dept. 835-6, and P. A. Nyquist, Dept. 657-0.

Team No. 3—Helium bent fin assembly (submitted by operations). D. J. Harris, Dept. 845-3; M. A. Lesh, Dept. 561-0; R. V. Marlowe, Dept. 197-0; H. W. Riner, Dept. 658-0, and J. T. Treat, Dept. 454-0.

Team No. 4—Liquid oxygen transducer assembly (submitted by engineering). J. M. Polhamus, Dept. 544-5; T. H. Brunner, Dept. 523-7; J. J. Collins, Dept. 522-6, V. H. Folsom, Dept. 491-0, and D. L. Johnson, Dept. 835-4.

Team No. 5—Voltage regulator assembly (submitted by engineering). L. D. Jambor, Dept. 542-0; V. R. Bryant, Dept. 491-0; Donald Crayton, Dept. 760-0; K. A. Morgan, Dept. 543-5, and Jack Ridout of Ridout and Co. Inc.

Team No. 6—Audio frequency detector (submitted by engineering). H. C. Keith, Dept. 142-1; Paul Slysh, Dept. 542-0; C. F. Stark, Dept. 491-0; H. R. Young, Dept. 845-1, and W. A. Schmitz, Dept. 544-4.

Team No. 7—Fuel tank access door (submitted by operations). C. A. Banner, Dept. 654-0; N. D. Tracy, Dept. 420-8; G. A. Vasick, Dept. 562-2, and S. Y. Johnson, Dept. 520-1.

Team No. 8—Access panel assembly for 240 airliner (submitted by operations). E. H. Bock, Dept. 662-0; H. P. Ebert, Dept. 522-6; R. W. Herbst, Dept. 816-3; H. R. Kennedy, Dept. 520-0, and Stanley Penziul, Dept. 015-0.

Store at Lindbergh To Open Two Days

Lindbergh Field plant's tool store, operated by Western Metal Supply Co., is now open two days a week instead of one. In addition to the regular Wednesday schedule the store will be open for employe sales on Mondays. Hours are from 8 a.m. until 4:30 p.m. both days. The store is located in Bldg. 13 across from the transportation office.

'Crazy Hat' Program To Be Taped For TV Show in October

Convair Wives will tape a television show at KOGO (Channel 10) television station on Oct. 11 publicizing their annual "Crazy Hat" contest set for later in the month.

The TV taping will be included in the "Product Preview" program, hosted by Dean Long, on Sunday (Oct. 17) at 11:15 a.m.

Wives' members will meet in the station's coffee shop at 9:30 a.m. on taping day and put on their "act" in the studio at 10.

The "Crazy Hat" affair, which yearly draws a large and varied entry field, will be Oct. 20 at Romaine's in Old Town. Wives make and model their own creations, vying for prizes for the craziest, most unusual, and prettiest headgear.

All wives are urged to attend the television taping party. No reservations are needed. KOGO studios are located at Hwy. 94 and 47th St.

ENGINEERING VALUE — E. D. Heller, right foreground in lower photo, Convair manager of cost reduction and value control, provides orientation for first fall Value Engineering Workshop class at opening session in CRA auditorium. Above, F. J. Denny, standing, project leader for Workshop Team 8, discusses proposed modification of an access panel assembly for Convair 240 airliner with, left to right, Richard W. Herbst, Howard B. Ebert and Stan Penziul.





EARLY WINTER — Weekenders at Big Bear encountered unseasonal snow and rain. At left, Richard Brown, 14, and Don Kosen, 11, pack first snowballs of year. At right is marshmallow toasting scene.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS is by noon, Oct. 6, ext. 3322, Kearny Mesa.)

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BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BALLROOM DANCING—New classes start Oct. 4 at CRA Clubhouse. Beginners, 7 p.m.; intermediates, 8:45 p.m.

BICYCLE CLUB — Now forming. Call ext. 1111 to join.

BRIDGE — Play every Friday night, 7:30 p.m., CRA Clubhouse.

CERAMICS—Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m. CRA Clubhouse.

DELTA DIVERS—Picnic Oct. 2. Meeting Oct. 13, 7:30 p.m., CRA Clubhouse.

DRAMA — Tryouts Sept. 30, Oct. 1, 7:30 p.m., CRA Clubhouse for Triangle Players' first production.

FENCING—Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FLYING CLUB—Meeting Oct. 5, 7:30 p.m., Room C, CRA Clubhouse.

GARDEN CLUB—Meeting Oct. 6, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Entries close Friday (Oct. 1) for Oct. 9-10 tourney, San Luis Rey. Call ext. 1111 for starting times.

GUN CLUB—Club shoot Oct. 3, Gillespie Field range.

GYMNASTICS — Classes for GD youngsters start Oct. 9. Call Pat Lamoureux, Health Club, ext. 1111.

ICE SKATING — GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Shoot 9:15 a.m., Oct. 10, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting tonight (Oct. 6), 7:30 p.m., CRA Clubhouse.

RIDING CLUB — Hayride and chili supper Oct. 9. Meeting Oct. 13, 7:30 p.m., CRA Clubhouse.

ROCKHOUNDS — Lapidary classes every week night, 7-9 p.m., Saturdays, 10 a.m.-5 p.m., Kearny Mesa Clubhouse; Wednesdays, 7-9 p.m., Gillespie Field Rockhound Shack.

TABLE TENNIS—Play and instruction Mon., Tues., Wed., Thurs., 6-10 p.m., CRA Clubhouse.

TRAILERITES — Travelers meet Oct. 5, 7:30 p.m., CRA Clubhouse. Call Virgil Marshall, ext. 3541, Kearny Mesa.

WIVES — TV taping "party" Oct. 11, 9:30 a.m., KOGO station, Hwy. 94 at 47th. Bus tour to Los Angeles Oct. 13. Call 453-3012 or 582-1976 for reservations.

SPACE CARDS ON SALE AT EMPLOYE SERVICES

Astronautics "space" playing cards still are on sale at all Convair employe services outlets at both plants and at the CRA Clubhouse at $1 a deck, as long as the supply lasts.

Boat and Water Skis Out of Place As Snow and Rain Fall at Big Bear

Snow, rain and 30-degree temperature provided an unexpected winter-like setting for 60 CRA Ice Skating Club members and guests Sept. 17-19 on the club's annual "Autumn Weekend" at Big Bear Lake.

Although snow and rain fell intermittently both Saturday and Sunday, the CRA group still found time to go horseback riding, take ski lift rides, play shuffleboard and horseshoes and toast marshmallows and sing around a Saturday night outdoor bonfire.

The group took over Big Bear's Wawona Lodge for the weekend. Cal Kosen of Dept. 544-5 and his wife, Joan, coordinated activities.

Food — and plenty of it — was provided by Gil Hutter, Prophet Co. manager of the Kearny Mesa cafeteria. Harold K. Brown, a former Prophet Co. employe, was on hand to fill his traditional role as chief chef for the group.

Ice skating sessions were held both Saturday and Sunday on an inside rink at Big Bear.

Fires were kept going in fireplaces in the lodge so the group could warm up while they watched television, listened to recorded music or "just relaxed."

Lodge operators said the snowfall was very unusual for September and Kosen termed the weekend weather "a preview of what we usually have in February."

The boat and water skis brought from San Diego by Jack Grace remained parked in front of the lodge. "Somehow, it just doesn't look appropriate," Grace said as snow began falling.

Most of the group left Sunday afternoon vowing to return during the winter when there should be enough snow on the ground for snow skiing.

Mgt. Club and CRA Will Sponsor 'Races Day' Oct. 10 at Caliente

Convair Management Club and CRA will co-sponsor a "Day at the Races" Oct. 10 at Caliente. One of the afternoon's highlights will be running of a "General Dynamics Convair Purse" feature race.

Tickets at $4 each are now available for Convair employes and guests at employee services and from Management Club boosters. They will include admission to the clubhouse, margaritas at noon and a buffet luncheon at 1 p.m.

The buffet luncheon is to include sliced roast beef, assorted cold cuts and cheeses, shrimp salad, jello, macaroni salad, tacos, enchiladas, chili rellenos, chicken a la king, french rolls with butter, lime sherbet with pineapple rings and coffee.

Appropriate attire is listed on the back of each ticket.

Ballroom Dancing Openings Continue

New ballroom dancing classes which started this week in CRA Clubhouse, Kearny Mesa, are still open for enrollment.

Instruction for beginners is each Monday night at 7 p.m., followed by intermediate classes the same nights at 8:45 p.m. Both run for a 12-week period. Latecomers may sign for either course at next Monday's (Oct. 4) sessions, although enrollment in the intermediate course is limited to those who have completed a former beginners' course.

Professional instructors teach both classes for a total cost of $18 per couple.

Further information can be obtained from Royce Riggan, ext. 459, Lindbergh Field plant.

Convair Travelers Attend Convention

Convair Travelers joined other trailer clubs in the Southern California area at the annual Travel Trailer Clubs of America Border District rendezvous in Escondido over the weekend of Sept. 17-19.

Commissioner Virgil Marshall headed the Convair contingent of 18 people in six trailers. Altogether 80 trailers were drawn up on the Chargers' training field during the convention.

Travelers will meet next Tuesday (Oct. 5) at 7:30 p.m. in the CRA Clubhouse.

Convair Drama Club Will Stage Tryouts

Tryouts for parts in the first production of the newly-formed Triangle Players, Convair drama club, will be tomorrow (Sept. 30) and Friday (Oct. 1) evenings, 7:30 p.m. in the CRA Clubhouse, Kearny Mesa.

The initial presentation of the new Little Theater group will be Noel Coward's "Present Laughter," a gay, sophisticated comedy which ran on Broadway in 1956 with Clifton Webb in the leading role.

Six female roles and six male parts, all between ages 20 and 50, will be cast this week, then the Triangle Players will go into rehearsal heading toward a Nov. 4 opening date.

Convair people interested in acting, production, or backstage work are urged to attend the auditions. Call CRA Headquarters, ext. 1111, Kearny Mesa, for further information.

Ride Club Members Plan Wagon Event

Riding Club members will pile their families into wagons for a moonlight hayride and chili supper Saturday, Oct. 9.

The ride will originate at the horse ring in the Convair Missile Park, Kearny Mesa, and end at Mountain View Ranch with the supper. Convair horses, Prince and Clem, will pull the hay wagon. Members who own horses will ride "posse," said Scotty Payne, in charge of arrangements.

Cost of the outing is 25 cents a person and each member may bring a guest. Reservations may be phoned in to Judy Watson, home phone 277-0798.

Flying Club Pilots Will Ferry Fishermen on Trip to Baja

Bonair Flying Club members will hear about flying in Mexico from an authority, Arnold Senterfitt, at their Oct. 5 meeting as they make plans for a November flight into Baja California.

Senterfitt, Convair Dept. 952-1, is an active member and past president of the Flying Samaritans who take medical aid to people in isolated spots. His Tuesday talk will be illustrated by slides.

Convair fliers are joining with the CRA Fishing Club for the Nov. 6-7 outing to Bahia de los Angeles, on the east coast of Baja about 325 miles below the border. Bonair fliers will pilot the planes and check out other future Mexico pilots on Baja California airports en route.

Fishing Club members will try their angling luck Saturday and Sunday. All other GD people, whether members of the two clubs or not, are invited to join the party to swim, sightsee, loaf, said Glen Hemphill (Dept. 684-1), Bonair Flying Club president.

"In fact," he said, "we are making every effort to join forces with other CRA clubs, especially skiing, skating, hunting, fishing groups who would like to be airlifted to locations too far to drive by car over a weekend.

"We can pool our resources and enjoy each other's activities."

Anyone interested is welcome to attend the Tuesday meeting, 7:30 p.m., Room C, CRA Clubhouse, Kearny Mesa.

Golfing Girls Collect Prizes

Prizes galore went to a dozen of the 33 lady golfers who finished with the lowest scores in GD Women's Golf Club's Sept. 11 match.

Fairway shots over Mission Bay course were the only ones counted in the "field shots" tourney.

Jo Ann Kranz won the CRA trophy for No. 1 spot in Class A division, and Jeanne Hawthorne took the trophy as Class B winner.

Second-place prizes, two weeks of free golfing at Mission Bay, went to Marge Gibson, Class A, and Betty Liddell, Class B.

The next four placers in both divisions won merchandise awards. Class A—Mary Ranson, Helen Wood Sunkel, Ora Carpenter, and Jerri Cooper, in that order. Class B—Kathryn Mix, Ann Gagnon, Clara Granatt, Kitty Hagley.

Lorene Waldron won a free golf lesson with high score for the day.

Next monthly match will be at Tecolote Canyon course Oct. 9. A special showing of a golf movie will be Tuesday evening, Oct. 12, 7.30 p.m., in Room C of the CRA Clubhouse, Kearny Mesa.

Title of the film is "Wonderful World of Golf." Guests and husbands are invited.

All General Dynamics women are eligible for membership in the club. Anyone interested is invited to call Ora Carpenter, membership chairman, at her home phone, 223-6095.

Gymnastics Course Slated for Children

General Dynamics children, kindergarten through junior high, will have a chance to learn the art of gymnastics and tumbling with the opening of new classes by CRA Health Club on Oct. 9.

Hour-long classes will be held for both beginners and intermediates each Saturday morning. Beginners will meet at 10 a.m.; intermediate group at 11 in the auditorium of the CRA Clubhouse, Kearny Mesa.

Fee for one semester will be $6 for the first child in a family, and $3 for each additional child.

Pat Lamoureux, club instructor and physical ed major at San Diego State, will conduct both classes. She says, "Gymnastics provide coordination, grace, discipline and flexibility of the body important to a child's growth."

For further information call Pat at the Health Club, ext. 1111, Kearny Mesa.

Rifle Range Gets Lighting

Night shooting has been added to the schedule of the Convair Rifle Club for adults with the installation of lights at the Gillespie Field range.

Lights have been installed to allow use of the 50-ft. light rifle range. And, lighting for the 50-yd. range will be installed in the near future.

Rifle Club members may now practice target shooting on the second and fourth Wednesday evenings at 7:30 p.m., in addition to the regular club shoot the first Sunday of each month at 9 a.m.

Junior Rifleers continue to shoot at the Gillespie Field site the first and third Saturday mornings at 8 a.m. Their monthly club meeting is held the third Wednesday evening, 7:30 p.m., at the CRA Clubhouse, Kearny Mesa.

Both the adult and junior groups offer light rifle instruction, NRA qualification courses, and special shoots for the entire family. All General Dynamics people and their friends are welcome to participate in either club.

For information call R. B. Andrews, ext. 777, Kearny Mesa; R. M. McGregor, ext. 495, Lindbergh Field; or D. L. Greer, ext. 484, also Lindbergh Field.

Al Reiter's 76 Low in Tourney

Al Reiter, winner of the CRA plant golf championship, kept up the pace at this month's tournament with a low gross score of 76.

Art King (Dept. 644) was just one stroke behind for runner-up spot in the 0-13 flight in Sept. 11-12 matches at Bonita Valley Country Club.

Sterling Campbell of Dept. 584, Lee Kite (Dept. 761) and C. A. Gordon (AF) tied at 69 to tangle low net honors.

In the 14-18 flight low gross was held by Hal Heist (Dept. 637) with an 81. Runner-up was John Doggett (Dept. 158), 82. M. M. Hill (Dept. 400) and John Evans (Dept. 251) both scored 68s to top low net.

W. A. Baumgartner (Dept. 976) held low gross score of 90 in the 19-and-over flight with C. W. Meinsen (Dept. 976) close behind with a 91. Eric Torp (Dept. 191) shot a 69 for low net. Al Van Horn (Dept. 400) was runner-up with a 70.

Entries close Friday (Oct. 1) for the Oct. 9-10 tourney at San Luis Rey. Call CRA Headquarters, ext. 1111, Kearny Mesa, for starting times.

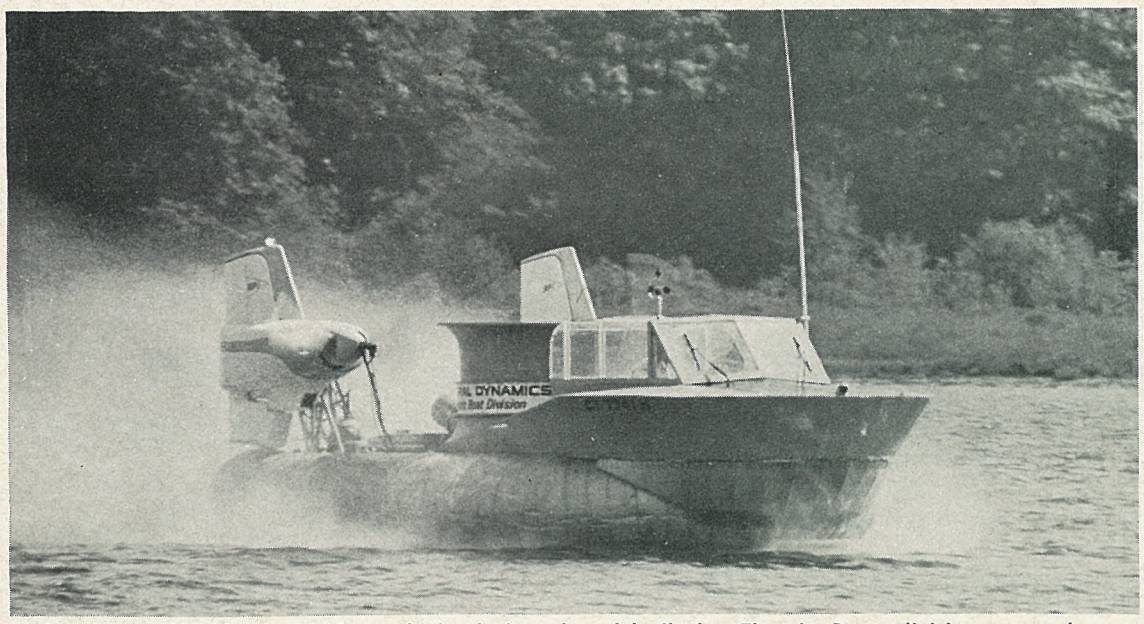
Rockhounds Offer Expert Instruction

Rockhound enthusiasts who want to learn how to turn their rock finds into objects of art may get expert advice and instruction at classes held by the CRA Rockhound Club at both Kearny Mesa and Gillespie Field.

Classes are held each week day evening, Monday through Friday, 7-9 p.m. in the CRA Clubhouse rockhound workshop, Kearny Mesa. The workshop is open Saturdays from 10 a.m. to 5 p.m.

The Gillespie Field rockhound shack is open each Wednesday evening, 7-9 p.m.

Knowledgeable members are on hand at all classes to help with use of the equipment for cutting and polishing stones. In addition, said Commissioner Dan Whorton, information is given on construction of rock and plastic table tops and bookends.



SPEEDY — Skip I, air cushion vehicle designed and built by Electric Boat division, was demonstrated for first time this month. It will be used as test bed and research vessel.

Electric Boat Unveils Air Cushion Craft For Fast Land-Sea Travel

The first air cushion vehicle built by an American shipbuilder was demonstrated successfully this month and cited as a possible solution to the problem of mass transportation in crowded coastal locations.

Skip I, a 22-foot vehicle, was unveiled by Electric Boat division, marking its first venture into air cushion craft. The Groton, Conn., shipyard is the leading designer and builder of nuclear submarines.

Dr. Herman E. Sheets, director of research and development at the shipyard, said air cushion vehicles have recognized military uses as anti-submarine warfare vehicles and amphibious craft.

"But," he noted, "this type of vehicle could be the answer to transportation demands in expanding urban areas where transit facilities are inadequate and overburdened.

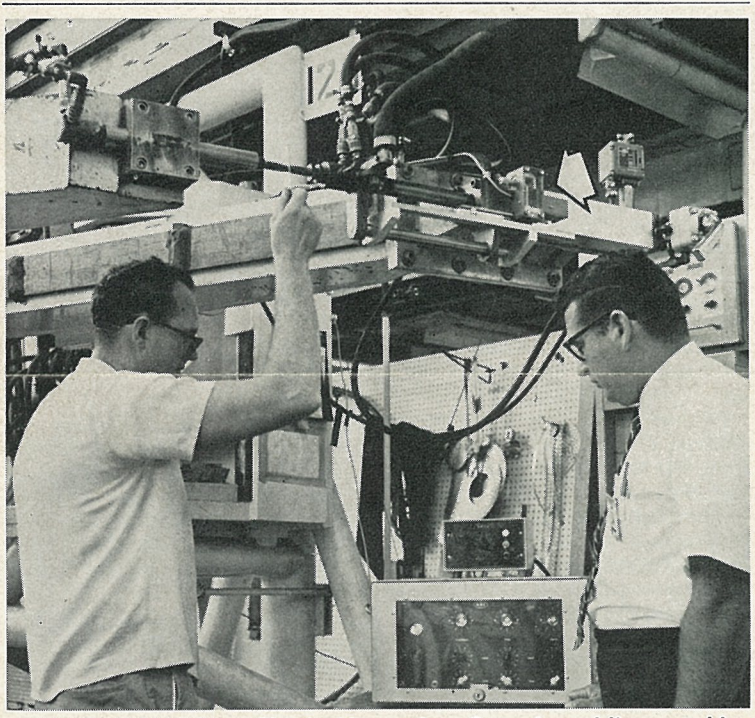
"If costs can be reduced and performance characteristics improved, the potential of the air cushion vehicle as a new mode of transportation is almost unlimited."

In tests the new vehicle maneuvered over both land and water at speeds up to 40 miles an hour.

Skip I, an acronym for "skimmer investigation platform," was designed and built with Company funds to serve as a test bed for further research in air cushion vehicles.

Built of aluminum alloy and fiber glass, the vehicle is lifted by a 180 h.p. engine and driven by a pair of 115 h.p. engines. Daylight clearance under its rubberized fabric skirt is about five inches, though the actual hard bottom clearance is about 16 inches.

Designed to carry an operator, an observer and 725 pounds of research equipment, the vehicle weighs 3,075 pounds and has a maximum speed of 50 knots.



WELD MONITOR—Chuck Abernathy, Convair welding machine operator at Plant 19, and Frank Wiegand, senior quality control engineer, watch lights on console of newly-installed weld monitor to see if welds are acceptable. Sensing device on arm of machine (arrow) measures rate of electrode separation during welding.

New On-the-Spot Weld Monitor Is an Aerospace 'First' in U.S.

A revolutionary method of monitoring quality of welds "on the spot" during welding is being evaluated at Convair in the first application of the equipment within the United States aerospace industry.

The new type of weld monitor, first one designed to indicate weld size and penetration, is termed an extraordinary advance in the field of nondestructive testing.

A sensing device mounted on the welding machine measures the amount of electrode separation due to thermal expansion during welding. Rate of electrode separation is directly related to the weld size. Information flashed from the sensing device to the monitor's console triggers lights indicating whether the weld is normal or substandard — either over or undersized.

Convair's unit has been mounted on one of the resistance welding machines in Air Force Plant 19 where stainless steel bracketry is welded on Centaur bulkheads.

Convair quality control engineers currently are conducting extensive reliability evaluation tests on the unit to determine optimum production welding applications. Walter Hageman and Frank Wiegand of Dept. 141-4, directing the evaluation, say they feel that the device has great potential.

"There certainly is a need for a nondestructive method of determining quality of welds during resistance welding. Until now, checks on weld quality could only be done before, through trial runs, or after the welds are finished, thereby delaying production," they commented.

The weld monitor was developed by the British Welding Research Association and just put into actual use during the last year. At present only 28 units have been produced. Besides the one installed at Convair, only three others are in use in this country and they are in automotive or electronic industries.

Co-developer of the unit, David N. Waller, and Richard Newling, both of BWRA, Cambridge, England, were in San Diego the first of the month to install the unit and instruct in its operation.

'SCALING ROUTINE' TOPIC FOR TALK

Lee Trammell of Convair Dept. 595-0 will talk on "A Generalized Scaling Routine," at the fourth annual UAIDE meeting Oct. 12-14, New York City.

Screen Display Study By S-C Authorized

A contract for the study of a new random access light valve technique, to be used in large screen displays, has been received by Stromberg-Carlson.

C. V. Shannon, manager of the company's Data Products division in San Diego, made the announcement.

The six-month study was awarded by the Rome Air Development Center, Griffiss Air Force Base, New York.

Anticipated uses of the light valve technique include displays for military command and control centers based on land, aircraft or on ships. Some radar uses are possible. The system has a potential application to large screen commercial or classroom television.

Advantages of the method over presently available large screen devices are expected to include a brighter picture, better resolution, the ability to store data on the tube surface, and to selectively erase data, together with the random access capability. It is expected to have the life expectancy of regular cathode ray tubes.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

ROBERT W. TRYON (1959) from Convair division to nuclear construction, Electric Boat division; **LOUIS J. PALMER** (1959) from Convair to engineering, Electronics division (San Diego); **MARVIN M. SMITH** (1959) from Convair to nuclear engineering, Electric Boat; **CHARLES R. JACKMAN** (1952) from Ardmore to project coordinator, Convair Eastern Test Range.

WARREN L. MARSH (1956) from Convair to nuclear engineering, Electric Boat; **WALTER W. CRAFT** (1961) from Electronics, San Diego to engineering, Convair division; **RICHARD G. MOEN** (1959) from Convair to nuclear engineering, Electric Boat; **WILBUR A. HUOT** (1950) from Fort Worth to purchased material, inspection, Electronics (Rochester); **ROBERT C. BRADLEY** (1959) from Convair to nuclear construction, Electric Boat.

GLEN E. HUEY (1961) from Pomona division to senior quality control engineer, Stromberg-Carlson (Rochester); **DANIEL C. BAIN** (1959) from Convair to nuclear construction, Electric Boat; **STEVEN J. ADAMS** (1953) from Convair to electrical engineer, Electronics (San Diego); **KNUD SONDERSTED** (1954) from Convair to nuclear construction, Electric Boat.

STUART L. LINDSTROM (1960) from Convair to program analyst, Electronics (San Diego); **IRVIN M. WAITSMAN** (1958) from Convair to nuclear engineering, Electric Boat; **DAVID C. COCHRANE** (1953) from Convair to customer engineer (trainee), Stromberg-Carlson (San Diego); **DONALD K. SLINGSBY** (1956) from Convair to nuclear engineering, Electric Boat.



PILOT CHECKOUT — Convair Pilot Loren Pilling, far left, greets FAA Pilots Charles House, James Stevenson, John Stoltze during their visit to San Diego to get type rating on Convair 600, shown in background.

Convair-Liner Much Painted Lady As Central Selects Color Scheme

A Convair plane modeled 36 different "ensembles" during a fashion show this month to decide the most suitable dress for Central Airlines craft.

Ernest G. Mantz Associates of Dallas, Texas, and Mexico City, who is commissioned to design a completely new corporate identity for Central, used the Convair-owned craft as a life-sized model for various color combinations and stripings.

"We did 35 paint jobs on 18-inch models, but decided that use of a real plane, nearly 77-ft. long, would make the colors and design appear in true proportion," said Mantz, in San Diego to direct painting and photography.

The plane was swathed in plastic, and windows masked off, between each paint job.

"Painting over plastic to expedite change of colors is a novel approach," said Mantz. "However, it took five hours to wrap the plane in plastic and just minutes to spray it."

Altogether, 12 rolls of plastic, 100 feet long and from 6 to 8 feet wide, were used during the three days of continuous painting.

Mantz chose to do the job at San Diego since Central could not tie up one of its planes for several days and could not spare the space necessary for the job. Convair loaned a Convair-Liner, floor space, and work stands. Convair photographers took color shots of each color combination. These were to be included with other material for the presentation of the overall design and color to designate the company's equipment.



QUICK CHANGE ARTISTRY — Painters use plastic-covered Convair plane for quick paint jobs in different color combinations in search for attractive new scheme for Central Airlines.

Drive Begins Next Week to Boost Con-Trib-Club Membership

Convair employes not now aiding the health and welfare agencies of San Diego County through Con-Trib-Club next week will have an opportunity to begin contributing their "fair share" through systematic payroll deductions.

During the special Con-Trib-Club enrollment week, department heads at both Kearny Mesa and Lindbergh Field plants will have pledge cards on which employes may specify amounts.

The "fair share" yardstick calls for 8/10 of 1 per cent of income, or the equivalent of the salary paid for four minutes of work per day. A chart on the back of each pledge card indicates the "fair share" for various salary levels. All deductions are deductible for federal income tax purposes.

"By the end of next week, we hope every Convair man and woman will be doing his or her part through the Con-Trib-Club to help make San Diego County a better place in which to live," Jack L. Bowers, Convair general manager, said.

"More than 75 per cent of our people already are giving through the Con-Trib-Club and we can be extremely proud of our record of assisting those less fortunate than ourselves," Bowers said. "We urge all who are not yet Con-Trib-Club members to join their fellow employes in fulfilling this obligation that we have to our community."

Last year Con-Trib-Club allocated more than $325,000 to Unit-

(Continued on Page 2)

SAN DIEGO EDITION

GENERAL DYNAMICS
NEWS

Vol. 18, No. 21 PUBLISHED BY GENERAL DYNAMICS CORPORATION 52 Wednesday, October 13, 1965



COMMAND CHANGE — Col. James Ourand, left, incoming Air Force Plant Representative, and Col. M. K. Andresen look over an Atlas model as they discuss new duty assignments.

Col. Ourand to Assume AFPR Duties Next Week

Col. James R. Ourand next week will succeed Col. M. K. Andresen as U.S. Air Force Plant Representative at Convair.

Col. Andresen, Plant Representative since January, 1963, is being reassigned as deputy director for procurement of the Fort Worth-built F-111 variable-wing fighter aircraft at Wright-Patterson AFB, Ohio.

During the past year, Col. Ourand has been assigned to the F-111 System Program Office at Wright-Patterson and has served as test director for an Air Force Systems Command cost management study project at General Dynamics' Fort Worth division.

A native of New Jersey, Col. Ourand was graduated from Purdue University in 1941 with a BS in mechanical engineering and was commissioned a second lieutenant in the Field Artillery Reserve, which later was transferred to the Army Air Corps reserve.

Col. Ourand entered active duty in 1941 at Hill AFB, Utah, and had engineering, aircraft maintenance and armament officer duties there during World War II.

He assisted in managing a family retail furniture and appliance business in Ogden, Utah, for three years before being recalled to active duty in 1948 and being assigned to command a special

(Continued on Page 2)

Jack Bowers Named Manager For Convair

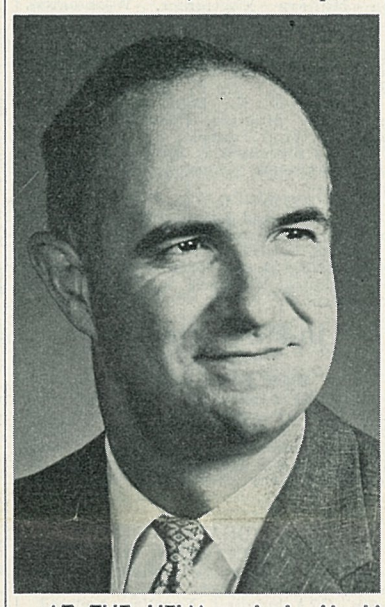
J. L. (Jack) Bowers late last month was appointed general manager of Convair division, succeeding J. R. Dempsey, who resigned.

The announcement was made by Roger Lewis, General Dynamics president.

Bowers, long time Company executive with wide experience at Pomona as well as San Diego, transferred to his new post from Corporate Headquarters in New York City where he had been on the staff of E. H. Heinemann, vice president-program planning, with responsibility for corporate-wide electronic systems.

He joined the Company originally at San Diego in 1946 as a research engineer in the radio and electrical laboratories, developing and supervising search radar, magnetic guidance and missile guidance projects. Later he was assigned to the Terrier project at the Pomona division as chief systems development engineer and chief development engineer.

In 1955 Bowers was recalled to San Diego to serve on the staff of R. C. Sebold, then vice president-engineering, with surveillance over Convair electronic activities. The following year he joined the then new Astronautics division as assistant chief engineer. After four years, during which he was intimately connected with the Atlas program, he left the Company in the spring of 1960 to become vice president and general manager of the Electronics division of AVCO. He rejoined General Dynamics last year as a member of Heinemann's staff.



AT THE HELM — J. L. (Jack) Bowers, newly appointed general manager of Convair division.

A native of Colorado Springs, Colo., Bowers received his degree from Carnegie Institute of Technology. His graduate study was at New York University and University of California at Los Angeles. During World War II he was a captain in the Air Force and supervised many projects at the Wright Field Special Projects Laboratory at Dayton, Ohio, among them development of jamming transmitters and radio and radar control equipment for guided missiles.

Convair Gets ONR Contract

Convair division of General Dynamics has received a $1,200,000 follow-on contract from the Office of Naval Research to continue research in ocean data processing.

The division first began development of ocean data collecting stations for ONR five years ago.

First of the oceanographic buoys, "Bravo," is in its second winter of tests off Florida. Following the current phase which will continue through the hurricane season, it will be relocated off the south coast of Puerto Rico for deep water testing, Robert Devereux, Convair program manager, said.

A second buoy is being assembled for West Coast tests.

Vandenberg Trip Will Reward Best ES Showing, Oct. 18-Nov. 19

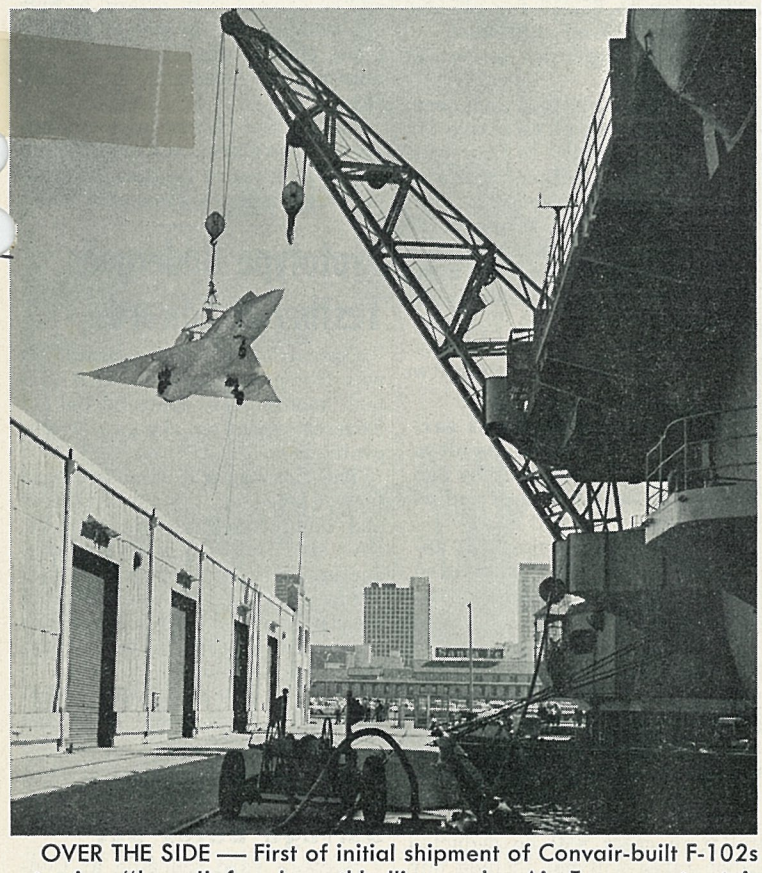
Four Convair employes from the San Diego area will be awarded a trip to Vandenberg AFB to watch the firing of an Atlas.

The trip will be made in the company's Aero Commander and will include a conducted tour through the blockhouse as the countdown progresses. The actual launch will be viewed from a

(Continued on Page 2)



DREAMY—Montage tells story of new contest, winners of which will take trip to Vandenberg AFB to watch Atlas launch.



OVER THE SIDE — First of initial shipment of Convair-built F-102s returning "home" for de-mothballing under Air Force contract is swung ashore at San Diego from U.S. Navy aircraft transport, Core, on Oct. 1. Shipment included 15 F-102s and TF-102s of 60 jet interceptors to be refurbished at Convair Lindbergh Field plant by mid-1966.

Bryant to Moderate Seminar at State

Electron beam and lazer welding will be the subject for the Fifth "Poor Boy" Seminar to be held Oct. 23 in the San Diego State College music auditorium under auspices of Chapters 44 and 189, American Society of Tool and Manufacturing Engineers.

E. D. Bryant, Convair vice president for operations, will be moderator and C. D. Royce of Dept. 420-8 will be seminar chairman.

A donation of $3.75 includes lunch. Reservations can be made by contacting D. A. Haslanger of Dept. 460-0 at ext. 1543 (KM). J. C. Duffy of Dept. 491-0 is chairman of the recently chartered North County ASTME Chapter 189.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Oct. 1 and Oct. 15.

Forty-year: Dept. 149-0, Lucille F. Metcalf.

Thirty-year: Dept. 019-0, E. D. Robinson; Dept. 400-3, G. J. Kick; Dept. 847-1, K. A. Miller; Dept. 957-0, M. C. Nesbit; Dept. 989-4, A. C. Thurber.

Twenty-five-year: Dept. 001-0, O. M. Hamman; Dept. 014-0, P. A. Pacheco; Dept. 053-0, J. S. Bergstrom; Dept. 057-1, J. J. Wheeler Jr.; Dept. 140-1, L. A. Denoyer; Dept. 143-4, W. H. Behrens; Dept. 146-5, P. H. Whitlock; Dept. 149, H. W. Balke, R. D. Johnson, A. L. Spears; Dept. 170-1, B. V. Allen; Dept. 250-1, M. I. Smith; Dept. 505-3, R. R. Lyman; Dept. 532-0, R. L. Trussell; Dept. 576-1, J. W. Galyen; Dept. 581-2, W. A. Floyd; Dept. 587-1, J. H. Morrow; Dept. 663-0, A. P. Traskell; Dept. 715-0, R. L. Long, J. R. Teague; Dept. 847-4, Saul Freedman; Dept. 953-2, J. L. Beeson; Dept. 957-0, G. H. Augustenborg; Dept. 958-7, A. W. Wiest; Dept. 976-3, Walter Levandowski.

Twenty-year: Dept. 001-0, T. A. Edwards; Dept. 016-0, Mamie L. Ervast; Dept. 101-2, M. E. Wyatt; Dept. 149-2, G. E. Ream; Dept. 227-0, D. Z. Stewardson; Dept. 251-3, Antonio Cilona; Dept. 401-9, J. C. Beltran; Dept. 523-4, C. F. McMenamy; Dept. 744-0, J. D. Rabe; Dept. 834-1, A. W. Peters.

Fifteen-year: Dept. 015-0, F. J. Stefance; Dept. 019-0, Myrtle B. Beauchamp, C. V. Core, Lela Y. Spahr; Dept. 140-0, Edna S. Hovey; Dept. 146-2, R. T. Coxeter; Dept. 250, Elizabeth P. Keeling, R. D. Leonard; Dept. 420-7, J. H. McDonald; Dept. 451-0, J. F. Wilson; Dept. 454-0, Milton Freeman; Dept. 492-0, J. W. Woodhouse; Dept. 504-0, Alvino Ramirez; Dept. 511-1, J. V. Zenari.

Dept. 526-2, D. L. Tennesen; Dept. 543-5, N. M. Antoniolo; Dept. 545-3, J. G. Howerton; Dept. 553-2, L. M. Goldberg; Dept. 573-1, R. V. Bucaro; Dept. 576-1, J. F. Counts, Carl Craig; Dept. 591-0, G. C. Cooper; Dept. 595-0, C. F. Kettner; Dept. 671-0, S. R. Sieler; Dept. 756-0, L. W. Finlay; Dept. 763-0, W. A. Clark Jr.; Dept. 780-3, C. D. Stephens; Dept. 817-0, M. K. De Bont; Dept. 832-3, Olympia P. Cocita; Dept. 836-1, Robbie H. Ford; Dept. 974-4, E. J. Antus; Dept. 989-3, P. F. Goforth.

Ten-year: Dept. 053-0, Alta Root; Dept. 113-0, W. D. Bowne; Dept. 142, D. R. Mabery, Genevieve M. Reynolds; Dept. 143-1, L. J. Gaul; Dept. 145-1, Frank Wendzel; Dept. 146-4, K. A. Krueger; Dept. 170-1, B. E. Jackson; Dept. 223-0, A. M. Toon; Dept. 228-0, W. E. Rice; Dept. 250, C. A. August, F. A. Hepburn; Dept. 300-3, G. P. Gerardy; Dept. 505-1, L. R. Hixon; Dept. 507-0, J. B. Gardner; Dept. 524, B. S. Colburn, Opal Davis; Dept. 574-3, G. L. Herstein; Dept. 576, F. B. Hencke, F. B. McQueary, L. G. Thompson; Dept. 588-1, W. A. Glaubius, E. J. Porter; Dept. 595-0, Ruth A. Hayward.

Dept. 642, R. L. Creamer, R. E. Parker; Dept. 652-0, R. C. Dufresne; Dept. 664-0, R. G. Stoklosa; Dept. 672-0, Lewis Sasaran; Dept. 731-0, L. C. Thurston Sr.; Dept. 758-0, Vito Tocco; Dept. 780-1, Thelma J. Colvin; Dept. 818-2, A. D. McFarlan; Dept. 835-2, K. N. Smith; Dept. 850-1, Eula M. Wiltgen; Dept. 954-2, Elaine A. Johnson; Dept. 957-0, H. L. Stouse; Dept. 962-4, W. G. Hage; Dept. 964-4, Karl Easland; Dept. 966-3, Toru Shimizu; Dept. 976-4, J. E. Shriver; Dept. 978, L. F. Rudolph Jr., John Zorman; Dept. 988-2, C. E. Saunders; Dept. 989-2, L. R. Schultek.

ELECTRONICS

Twenty-year: Dept. 4072, H. E. Brust.

Ten-year: Dept. 1251, V. W. Finley; Dept. 4073, Louella Kennedy; Dept. 6854, V. R. Hampsten; Dept. 6867, P. L. Mathewson; Dept. 6879, W. C. Eastin; Dept. 7587, L. R. Zemlin.

STROMBERG-CARLSON

Twenty-year: Dept. 8201, L. A. Gilmore.

Fifteen-year: Dept. 8643, J. F. Swenson.

Awards

CONVAIR

Employe Suggestion Awards approved for the reporting period ending Sept. 29.

Dept. 015, G. C. Archbold, William Sileneck; Dept. 024, J. D. Hayman; Dept. 041, J. Caldwell; Dept. 113, R. D. Qua; Dept. 123, D. R. Pierce, A. K. Raines and R. J. Robinson (two joint awards), Ray Rush; Dept. 125, T. C. Mitchell Jr. (first installment); Dept. 130, L. D. Simmons; Dept. 141, C. R. Blust, F. T. Hoffman, W. J. Knox, R. A. Montgomery (first installment); Dept. 143, W. B. Dawson, Helen Gallant (first installment), H. A. Jackson (first installment), P. Plus; Dept. 146, Norman Smith.

Dept. 193, M. B. Beck; Dept. 250, Don Manley Jr., R. B. Mason; Dept. 571, E. J. McGee; Dept. 572, P. M. Fleek and R. E. Smith (joint award); Dept. 665, W. Nutt; Dept. 733, R. A. Asperin and J. E. Kemp (joint award), J. C. Morales; Dept. 744, E. C. Rains (final installment); Dept. 756, K. W. Swant; Dept. 758, B. T. Medearis; Dept. 759, N. B. Byrd and G. D. Lundquist (two joint awards), L. O. Marine, R. E. Sims (first installment); Dept. 780, L. M. Rapp, C. E. Senseman, J. C. Yager (first installment); Dept. 832, Sarah Petty; Dept. 838, R. H. Feeley; Dept. 972, Burris Melvin; Dept. 979, L. K. Arnold and J. O. Castle (joint award).

Deaths

CONVAIR

BALKE—Harold W., Dept. 149-0. Died Sept. 26. Survived by his wife, Virginia; his father, and a brother.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Papers Presented

CONVAIR

BEAL — C. E., Dept. 142-2, "Gage Block Metrology at Convair," Precision Measurement Association, SD Chapter, Sept. 28.

HURLICH—A., Dept. 572-0, "The Cryogenic Behavior of Titanium," New York University Metallurgy Course, Sept. 14.

McKEOWN—D., Dept. 596-0, "Instrumentation for Measuring Energy Transfer from the Upper Atmosphere to a Satellite," International Astronautical Congress, Athens, Greece, Sept. 12-18.

ROBEY—D. H., Dept. 503-0, "A Scientific Explanation for Flying Saucers," Major Kuinton Illa, Headquarters, Foreign Technology Division, AF Systems Command, Wright-Patterson AFB, Ohio.

RUARK—A. E., Dept. 170-3, "Configuration Accounting Requirements—Configuration Status and Verification in Practice," UCLA Configuration Management Course, Los Angeles, Sept. 17.

Papers presented at Advanced Research Projects Agency's Tabstone Symposium, Washington, D. C., Sept. 29-30, included:

DORIAN—M., Dept. 596-0, "The Spectral Radiance at the Nozzle Exit of a Titan II Second Stage."

FERRISO—C. C., Dept. 596-0, "A Band Ratio Technique for Determining Temperatures and Concentrations of Hot Combustion Gases from Infrared Emission Spectra."

THOMPSON—J. A. L., Dept. 596-0, "Aspects of Supersonic Rocket Plumes."

Papers presented at American Physical Society Meeting, Honolulu, Hawaii, Sept. 2-4:

BOSCH—Sam, Dept. 572-1, "Ultraviolet Irradiation of Metal Oxides Thin Films."

LUDWIG—C. B. and C. C. FERRISO, Dept. 596-0, "Spectral Emission Measurements of Carbon Particles at High Temperature."

YOSHIHARA—H., Dept. 596-0, "Multi-Rocket Exhaust Plumes."

Papers presented at IEEE/Conference on Military Electronics, Washington, D. C., Sept. 22:

PALLULAT—H., Dept. 591-0, "FASTI: An Automated Malfunction Analysis and Fault Isolation Data Presentation System."

YAGER—E. K., Dept. 507-0, "Techniques of Multiple Pressure Measurement in Wind Tunnels."

Papers presented at Systems Engineering Conference, Chicago, Ill., Sept. 20-23:

CAMPBELL — C. C., Dept. 696-1, "Limitations and Design Alternatives Imposed by Component Reliability."

CHERIN—H. C., and DONALD STEARNS, Dept. 952-1, "Measurement of Technical Progress in Program Development."

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff. Lindbergh Field, ext. 491. One hour, Tuesday, Oct. 19, Dept. 300 personnel; 7 a.m. and 3:30 p.m., Bldg. 14 auditorium. One hour Tuesday, Oct. 26; 8 a.m. and 4:30 p.m., Bldg. 14 auditorium. Kearny Mesa, ext. 1931. Two hours, Monday, Nov. 1, 8-10 a.m., Room 7, Bldg. 17, Kearny Mesa.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1931, Kearny Mesa. 40 hours, Oct. 11-22, 8 a.m. to noon, CRA building. Enrollment closed.

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks, Kearny Mesa coordinator, Harry Miller, ext. 1931; Lindbergh Field. Coordinator, Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training)—Eight hours per day, 26 weeks, Bldg. 3, Lindbergh Field, Coordinator, Wayne Turner, ext. 491.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly, 7 a.m.-3:45 p.m.; Room 10, Bldg. 17, Kearny Mesa.

PROGRAMMING FOR COMPUTER CONTROLLED SYSTEMS CHECKOUT—Dick Forrest, ext. 1931, Kearny Mesa. Limited enrollment. Forty hours, Monday through Thursday, 3:15-5:15 p.m., Sept. 13-Oct. 31. Four weeks on Fortran, Bldg. 17, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

CRYOGENIC ENGINEERING — Karl Leonhard, ext. 4583, Kearny Mesa, 48 hours; Tuesdays, 5-8 p.m., Sept. 14-Dec. 28, Room 7, Bldg. 17, Kearny Mesa. Prerequisites: minimum of 3 yrs. toward BS degree or 5 yrs. applied engineering experience.

CITY COLLEGE SPRING COURSES—Send AVO to Dick Forrest, Zone 130-30, Kearny Mesa. Give name, department, extension, courses interested in. Classes will be held one night a week, usually 5-8 p.m.

Invention Disclosures

CONVAIR

BARHAM—J. W., Dept. 973-3. Snap-On Data and Timing Pen Lifter.

FRANKLIN—Richard N., Dept. 978-1. Digital Transducer (F. M. Output).

HEROLD—R. E., Dept. 141-3. Tube Coupling.

KROHN—F. F. W. and M. D. WEISINGER, Dept. 572-2. Differential Thermal Ring Bonding.

LUPENKO—Alexis P., Dept. 756-0. Ice Forming.

Retirements

CONVAIR

BLAKESLEE—Glenn D., Dept. 3-6. Seniority date Aug. 29, 1955, retired May 8.

BRINKS—Bernard J., Dept. 780-2. Seniority date Jan. 23, 1951, retired July 30.

CRALL—Donald L. Sr., Dept. 975-4. Seniority date Oct. 1, 1958, retired July 31.

LASAM—Teodoro, Dept. 759-0. Seniority date June 13, 1957, retired Sept. 3.

NUCKLES—Walter E., Dept. 401-4. Seniority date Sept. 13, 1939, retired Sept. 7.

PHOENIX—Marston U., Dept. 460-0. Seniority date June 2, 1959, retired July 28.

PROCTOR—Louis H., Dept. 403-3. Seniority date April 4, 1960, retired Aug. 24.

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.

Kemper Named Data Products Operations Mgr.

Realignment of operations functions under a single head at Stromberg-Carlson's Data Products division was announced the first of this month by Carl V. Shannon, manager.

Shannon has named Ivan L. Kemper as manager of operations to oversee manufacturing operations, quality assurance, material, plant engineering at the San Diego division.



I. L. Kemper

Kemper was manager of quality assurance before his present appointment.

Reporting to him are C. E. Klein, supervisor of production engineering; Charles Licastri, superintendent of manufacturing; D. L. Macey, chief of material; R. K. Barnett, chief of quality assurance; and R. E. Dieter, plant engineer. Most of these functions will be located at Stromberg-Carlson's Hancock St. facility where Kemper is headquartered.

Kemper first joined the Company at Convair in late 1944. From 1955 to 1961 he was a supervisor at the Stromberg-Carlson Information Technology facility in San Diego. From 1962 to 1964 he was supervisor of S-C quality assurance.

Col. Ourand Assumes AFPR Duty at Convair

(Continued from Page 1)

weapons squadron in North Africa.

After returning to the United States in 1955, he attended the middle management program at Harvard Business School where he was designated a Baker Scholar and received his MBA degree with high distinction.

Following a tour of duty in the industrial resources division at Air Materiel Command headquarters, he attended the "Education with Industry" program at Douglas Aircraft Co.

He was promoted to colonel in 1960 and commanded the Chicago Air Procurement District (now Chicago Contract Management District) for four years before receiving the F-111 System Program Office assignment.

Col. Ourand and his wife, LaVerna, have two sons and a daughter and reside in Pacific Beach. The oldest son, James Jr., 22, is married and is serving with the Air Force in Spain. John, 19, is a San Diego City College student and Susan, 16, is a junior at Mission Bay High School.

The AFPR office at Kearny Mesa has an assigned strength of 14 military personnel and 142 civilian employes.

Personals

CONVAIR

The flowers and sympathy received at the death of my father, Charles Hahn, are deeply appreciated by my family.

C. Harold Hahn.

* * *

We wish to express our sincere gratitude for the flowers and sympathy received at the death of our husband and father, L. C. Hall.

Mrs. L. C. Hall and sons, R. L. Hall, Dept. 756-0, and R. H. Hall, Dept. 542-0.

* * *

I wish to thank my many Convair friends for the kind wishes, prayers, cards, and gifts I have received during my convalescence from injuries sustained in an auto accident.

Helen R. Miller, Dept. 149-2.

* * *

We wish to acknowledge and thank our Convair friends for their beautiful floral offerings and sympathy cards at the death of our beloved husband and father, Joe N. Rolph.

Lyndon F. Rolph and family.

* * *

I wish to thank our Convair friends for the expressions of sympathy and flowers received during the illness and death of my husband.

Mrs. Juliann Ruth.

Births

CONVAIR

HILD—Son, Robert David, 8 lbs., 7 ozs., born Aug. 18 to Mr. and Mrs. R. F. Hild, Dept. 146-1.

ELECTRONICS

BAKER—Daughter, Cynthia Lynn, 10 lbs., 3 oz., born Aug. 30 to Mr. and Mrs. Robert C. Baker, Dept. 6982.



SEEING EYES — Providing guide dogs for blind is only one of hundreds of ways Convair employes assist less fortunate in San Diego County through their Con-Trib-Club payroll deduction gifts.

Drive Begins Next Week to Raise Membership in Con-Trib-Club

(Continued from Page 1)

ed Community Services to assist 77 local non-profit health, welfare and social services organizations. These agencies assist families in every community of the county.

Thousands of other dollars went to help fight cancer, arthritis and rheumatism, cystic fibrosis, diabetes, epilepsy, heart disease, birth defects, speech and hearing problems, muscular dystrophy, mental health problems and alcoholism.

Children from indigent families had their teeth repaired at the Children's Dental Health Clinic or went to summer camp, the blind received trained guide dogs from International Guiding Eyes Inc. and people that were "down and out" received food, shelter and other assistance from a dozen different organizations because Con-Trib-Club provided needed funds.

Among more than 125 organizations receiving a helping hand from the Con-Trib last year were Big Brothers of San Diego, Campfire Girls, Citizens' Scholarship Foundation, Door of Hope, Home of Guiding Hands, Neighborhood House, Pastoral Counseling Service, Senior Citizens Lounge, Sheltered Workshops, Travelers Aid, Nazareth House, Bayside Social Center, Lifeline Ranch, United Jewish Federation, Urban League of San Diego and the YMCA and YWCA.

James K. Field, chief of employe services and coordinator for the Con-Trib-Club enrollment campaign, said 10 per cent of funds received by the Con-Trib-Club is set aside in an Emergency Aid Fund to assist Convair employes and their families when an unexpected crisis creates a financial emergency that cannot be met by normal means.

All Con-Trib-Club funds go directly to fill the need for which they are earmarked since the Company underwrites all collection and administration costs.

Vandenberg Trip Will Reward Best ES Showing, Oct. 18-Nov. 19

(Continued from Page 1)

telemetry trailer — the best vantage point from which to watch the shot.

The four persons will be chosen on the basis of the best Employe Suggestion record during the five-week period from Oct. 18 through Nov. 19. This means the possibility of a double reward for good, usable ideas. The trip for the four winners will be in addition to the usual award of 10 per cent of the first year's net savings up to $5,000 for all suggestions approved and used.

Following are rules governing the contest:

A one-day trip to Vandenberg AFB on the day of an Atlas firing will be awarded to four company employes (either hourly or salaried non-supervisory) from the San Diego area. Winners will be compensated for travel and per diem expenses in accordance with established procedures for travel status.

Two winners will be selected from each of the following two categories:

The highest total dollar savings attributed to all Employe Suggestions submitted by an individual during the period of the contest.

The largest number of approved suggestions submitted by an individual during the contest period.

To be approved, an Employe Suggestion must meet eligibility rules listed on the back of the printed suggestion forms. Winners must meet security requirements.

Savings will be computed for the first 12 months of use. Installation costs will be deducted. Labor rates will not include burden or overhead.

Winners must be on the payroll of the Convair division of General Dynamics at the time of the trip.

Multiple submitters of the same approved suggestion each will receive proportional credit.

The company's decision in all matters relating to the contest will be final.

A running tabulation of approved suggestions will be kept and summary box scores published.

"This contest provides an unusual and exciting reward for creative thinking," J. H. Johnson, manager of management systems, said. "It offers a rare opportunity for people to submit good, usable suggestions that will improve our products and reduce costs."

Suggestion forms and pre-addressed envelopes are available in suggestion boxes located throughout the plants.

Prototype Undergoes Testing at Edwards

Convair's 600/240 prototype was flown to Edwards AFB late last month for continuation of Federal Aviation Agency flight evaluation.

The Convair 600, first in flight test, started its intensive takeoff and landing testing on Sept. 27. FAA and Convair pilots are conducting the flight tests. Convair pilots involved in the program during the last two weeks have been Lindy LeVine, Nate Murphy, and Don Germeraad.

The 600/440 prototype is continuing flight testing from the San Diego field.

Kearny, Lindbergh Salvage Dates Set

Salvage yard schedule at Convair plants for the next four weeks is:

Kearny Mesa—Oct. 16, 30.

Lindbergh Field—Oct. 23, Nov. 6.

Protective Cover For OAO Payload Checked Before Journey to Cape

Fairing system, developed and constructed by General Dynamics for the first flight article in the Orbiting Astronomical Observatory program, was "stacked" at Convair the end of last month for a complete check before shipment to Cape Kennedy in November.

The four-stage fairing system to protect the OAO space probe was developed by Convair for NASA's Lewis Research Center. Fort Worth division built the fiber glass nose sections for both the test and first flight articles, and coordinated assembly of the first test unit.

The OAO payload is a scientific observatory being built by Grumman Corp. for NASA to gather information in outer space. First OAO, to be launched early next year by an Atlas launch vehicle (1601-1), is designed for investigation of cosmic rays.

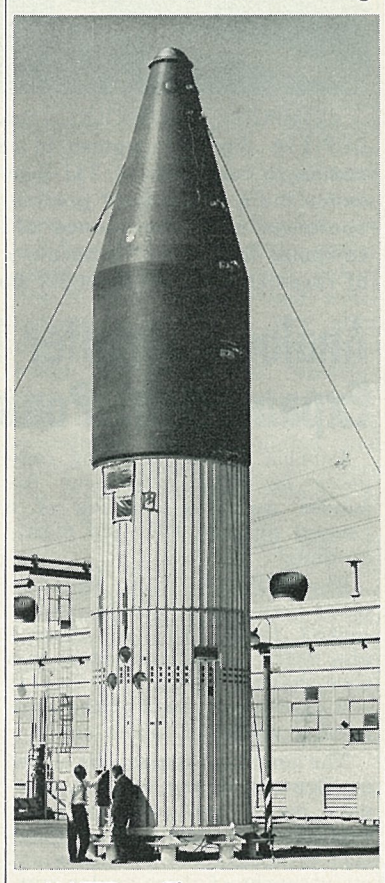
The entire OAO fairing system consists of four separate sections, 120-in. in diameter and 60-ft. high when mated in entirety. The first section, the conical fixed adapter to mate the fairing system to the Atlas vehicle, has already been shipped to the Cape. The stages mated by Convair at AF Plant 19 last month were the other three —the mid and aft aluminum skin and stringer structures and the fiber glass nose cone.

After launch, as the spacecraft reaches orbit and there is no longer need for protection of the delicate instrumentation in the payload, the nose and mid fairings are jettisoned. The aft fairing which contains the payload remains with the booster after the payload is propelled into space.

Clyde Medearis, administrator of Plant 19, said that mate of the fairing system was highly successful with little or no problems. Fit and alignment of the fairings were checked and a continuous check made on all electrical and instrumentation systems.

The nose cone will be coated with cork at the Kearny Mesa plant before shipment with the other sections next month.

Dept. 715, machine shop and fabrication, under Rex Grimes, assistant foreman, was responsible for nose fairing assembly including installation of the longerons, helium system, retroforce system. Major assembly, Dept. 758, with Ray Kendall, foreman, and Tex Vining, assistant foreman, assembled the metal fairings.



MATED — Three upper sections of OAO fairing system, developed and built by Convair, stand 56-ft. tall in Plant 19 yard during successful checkout.

Air Force Creates Contract Division

Brig. Gen. Daniel E. Riley now heads the nation-wide Air Force Contract Management Division, headquartered in Los Angeles. This is the parent headquarters of Col. Max W. Boyer's Air Force Plant Representative Office at Fort Worth and of Col. M. K. Andresen AFPRO at Convair, San Diego.

The appointment, effective Oct. 1, was announced by Gen. B. A. Schriever, Commander of the Air Force Systems Command.

Assignment of a general officer to head the recently activated Contract Management Division reflects the growing emphasis being placed on management of the Air Force operation, according to Col. Boyer.

The division, with 22 Plant Representative Offices located at the nation's major aerospace and defense industry plants, manages contracts valued at over $47 billion.

WESTERN ELECTRIC LEASES S-C 4020

Stromberg-Carlson has leased an S-C 4020 Computer Recorder to Western Electric Co., manufacturing arm of AT&T, Carl V. Shannon, manager of Stromberg-Carlson's Data Products division, announced.

The recorder has been shipped from San Diego to Burlington, N.C., where it will operate in a computer installation which services Western Electric and Bell Telephone Laboratories facilities in Burlington, Winston-Salem, and Greensboro.

The primary function of the high speed data recorder will be in connection with the design of the computer for the Nike-X antimissile missile system. It will record such data as logic and cabling diagrams as well as wiring lists.

Western Electric is the prime contractor to the Nike-X Project Office of the Army for the Nike-X system and Bell Telephone Laboratories is responsible for system design and development.

Air Force Places Additional Order

Electronics division has received an additional contract from the U.S. Air Force for a further supply of AN/MRC-107 radio communications equipment amounting to $2,825,374. This modifies the original procurement contract received earlier this year for $5,135,727.

The AN/MRC-107, known as a "Communications Central" is currently in production. Each unit will be self-contained, mobile, and capable of sending and receiving information either on location or while under way.

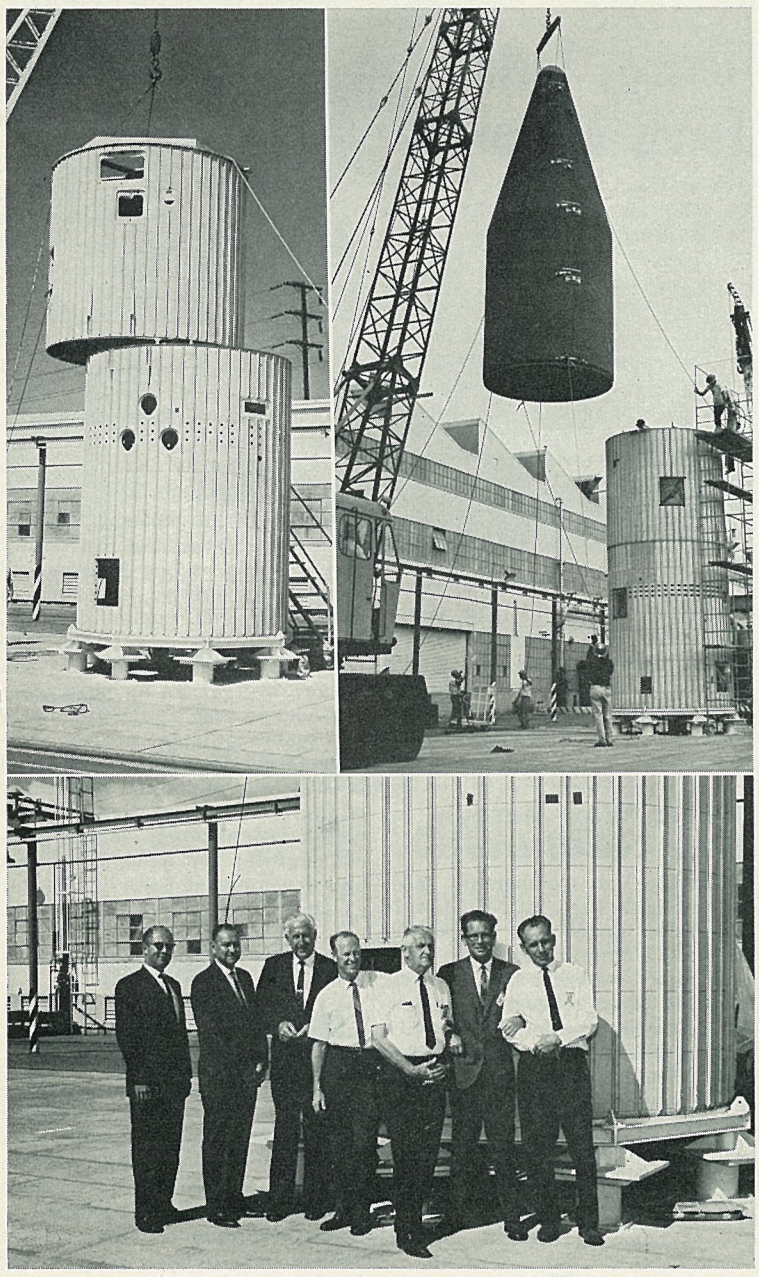
Major use of these systems will be for forward area tactical aircraft control. An entire unit consists of the radio transmitter and receiver equipment, for HF, VHF, or UHF operation, and a gasoline-powered generator making it independent of any other power source. A jeep and trailer carry the entire system.

High School Diploma Delivered, But Late!

Gordon Needles of Convair Dept. 838-8 received his high school diploma a couple of weeks ago—just 19 years late!

Needles had left Aquinas High School, Columbus, Ohio, in 1943 during his senior year to join the service. When he returned in 1946 to apply for his diploma, he was told he still needed a couple of required subjects to qualify.

He never knew that a diploma actually had been issued him at that time. The document, dated June, 1946, was discovered when old records were cleaned out recently in preparation for demolishing the school building.



STACK-UP — In upper lefthand shot mid fairing for Orbiting Astronomical Observatory is swung on top aft fairing with fiber glass nose fairing (right) going into place in recent mating at Convair AF Plant 19. In lower shot, from left, are C. C. Beals, NASA's OAO project engineer from Lewis Research Center; Clyde Medearis, Convair Plant 19 administrator; E. E. Durbin, Plant 19 quality control supervisor; Tex Vining, Dept. 758 assistant foreman; Rex Grimes, Dept. 715 assistant foreman; E. J. Bourgeois, assistant supervisor quality control; and Ray Kendall, Dept. 758 foreman.



FORTY YEARS — Lucille Metcalf (Dept. 149-0) is second woman to serve 40 years with Convair. (First, Jane Dunn, retired last year.) Flanking Lucille is Jack L. Bowers, Convair general manager, right, who last week presented diamond-studded pin marking two-score years, and J. H. Famme, vice president-aircraft programs. Others on hand to help celebrate occasion are, from left, R. C. Sebold, vice president, research, development and engineering; Don Germeraad, technical chief of crew performance group; W. J. Martin, manager of reliability control-aircraft programs; E. D. Shannon, manager of aircraft flight test; and R. I. Morse, in charge of wire communication-West Coast.

NASA Team Confers in San Diego On Modification of Little Joe

A NASA team, headed by Dr. Joseph F. Shea, Apollo program manager at the Manned Spacecraft Center, Houston Texas, participated in a joint presentation on Little Joe II at Convair late last month.

Both NASA and Convair men presented results of the intensive investigation by both GD and NASA into possible causes of the only unsuccessful flight of the Convair-built launch vehicle since the inception of the program.

Little Joe II, low-cost launch vehicle developed by Convair for NASA's Apollo program, had proved itself remarkably reliable during three launches to test the Apollo spacecraft launch escape system previous to the failure last May.

Corrective measures taken to prevent a recurrence also were reviewed. Modifications involved are now incorporated in the Little Joe II launch vehicle due to move to White Sands Missile Range, N. M., this month.

J. B. Hurt, Convair's Little Joe II program manager, said that data presented during the Sept. 24 review was comprehensive and satisfactory, both from Convair's point of view and NASA's.

Taking part from NASA, besides Dr. Shea, were M. A. Faget, assistant director of engineering and development, MSC; M. A. Silveira, Little Joe II program manager, MSC; F. J. Bailey Jr., T. V. Chambers, K. J. Cox, J. W. Dodson, O. P. Littleton, B. J. McCarty, J. P. Seigler, all of MSC; G. Esenwein, G. A. Lemke, Don Linn, NASA Headquarters, Washington, D. C.; H. F. Alcantar, D. M. Severson, White Sands Test Facility.

Convair participants were C. W. Frick, director advanced design and technology; Hurt, A. T. Anderson, H. K. Cheney, T. J. Condon, M. I. Edelstein, H. R. Horne, R. K. Jepperson, W. L. Johnston, B. J. Kuchta, A. D. Mardel, R. S. Oberst, V. J. Park, Richard Parsons, N. L. Wener.

Three From Convair Attend Symposium

Capt. Harry L. Arthur and Capt. Frank M. Hilbish, two Air Force officers attending a 10-month course in industrial planning and procurement at Convair's Kearny Mesa plant, and Emory Thurston, an educational specialist in Dept. 130-3, last week attended a three-day Air Force Management Symposium at the Hughes aircraft plant in Culver City.

Thurston said about 100 officers involved in the Air Force Institute of Technology's "Education with Industry" program, and about 30 staff personnel who assist with the program at major aircraft and aerospace firms throughout the country, were present.

Asst. Port Director To Address S-C Club

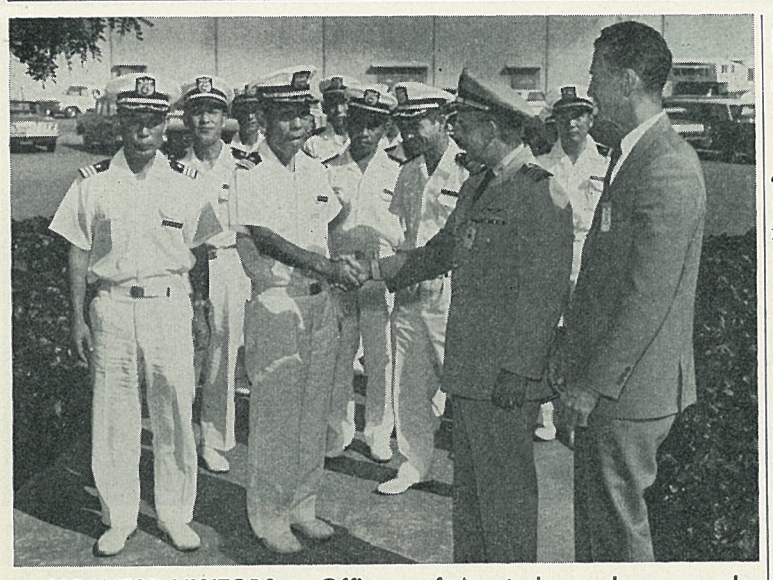
Don L. Nay, assistant director for the Port of San Diego, will speak at tomorrow's (Oct. 14) meeting of the Stromberg-Carlson Management Club in the Bronze Room Restaurant, La Mesa.

Nay will discuss the future of San Diego's port facilities.

Social hour will begin at 5:30 p.m. followed by a 6:30 dinner, and program at 7:30.



NASA REVIEW — Seated around conference table during recent meeting of NASA and Convair representatives to consult on Little Joe II are (from left) C. W. Frick, Convair director of advanced design and technology; NASA's F. J. Bailey Jr., M. A. Faget, and Dr. J. F. Shea, Apollo program manager; J. B. Hurt, Convair Little Joe II program manager; M A. Silveira, Little Joe II program manager, MSC; J. W. Dodson, NASA; G. A. Lemke, NASA; A. D. Mardel, Convair manager of test data processing and evaluation.



JAPANESE VISITORS — Officers of Amatsukaze, Japanese destroyer armed with Tartar missiles produced by General Dynamics, pay visit to Pomona plant. Greeting them are Capt. J. C. Kemp, Bureau of Naval Weapons Representative, and L. E. Spear, Pomona division vice president - plans and programs.

New High-Strength Steels Tested In $92,000 Hunt For Excellence

Three new high-strength nickel steels — forged into typical airplane production parts—are being evaluated in the Engineering Test Lab at Fort Worth division.

The $92,000 program, subcontracted from Republic Steel Corp. in Cleveland, is being carried out for Systems Engineering Group of the Air Force Systems Command.

Undergoing tests are steels designated HP9-4-45, 18 NiCoMo (250), and 18 NiCoMo(300).

"All of these steels are supposed to be tougher than presently acceptable and comparable-strength aircraft steels," said R. L. Jones, project leader. R. J. Schiltz Jr. is metallurgist in charge of specimen fabrication and testing.

During the program, 20 forgings are being cut into 575 small specimens, which will be evaluated for tensile, fatigue, stress corrosion, and fracture-toughness strength.

"We're looking for material that, besides being tough, can take sustained loads in the presence of corrosive environments without failing," Jones said. "In addition, we need steels that can carry greater cyclic loads and can be heat-treated more easily."

One of the new steels—18 NiCoMo(300) — is hardened by a simple 900 degree F. aging to ultimate strengths of 290,000 psi.

"Problems of warpage, quenching, tooling, protection, and atmosphere normally associated with heat-treating are eliminated in this process," Jones said.

The 40-pound forgings of 18 Ni and 9 Ni are made in the same configuration as the F-111 wing pivot attach-support bracket.

"We'll test it thoroughly and compare our results with data obtained on F-111 parts," Jones said.

Visitors Briefed On Kearny Plant

Sixteen representatives of Department of Defense, Air Force, Army and Navy agencies were at the Kearny Mesa plant Sept. 27 for a briefing on system proposals and a tour of life sciences, Centaur and SLV facilities.

They included Col. O. C. Griffith, Lt. Col. W. C. Shepherd, Howard Ellsworth, Vincent F. Mayolo, S. H. Meiselman and Donald R. Mitchell of the Office of Assistant Secretary of Defense; Capt. S. Reitz and Albert N. Bayer of the Office of Naval Materiel, and Cdr. Allen Dame of the Armed Forces Institute of Technology.

Also, Col. C. T. Campbell and Walter R. Snedeker of Air Materiel Command; Col. J. L. Rouse and E. P. Black of Air Force Headquarters; Lt. Col. E. G. Triner of Air Force Systems Command; Francis L. Kueht of Defense Supply Agency, and E. F. Sweetser of the Office of Director of Defense-Research and Engineering.

Two representatives of Management Methods Corp. of Sacramento, Calif., Henry A. Taylor and Charles K. Simon, also were present.

Information was presented by Lt. Col. J. P. Cann of Space Systems Division SLV-3 office in Los Angeles; H. K. Capper, SLV configuration management and program control manager; and Don R. Pardee, chief of division systems.

C. S. Ames, vice president and SLV program director, welcomed members of the group and was host for their visit.



BLDG. 33 IS VACATED AT LINDBERGH FIELD

Reliability control functions at Lindbergh Field have been relocated in the north end of Bldg. 7.

W. J. Martin, manager of reliability control - aircraft programs; his staff members, L. C. Stuckey, manufacturing quality control supervisor; Charles Wallman, supervisor of reliability audit and control, and all personnel reporting to them moved into the new quarters from Bldg. 33 early this month.

Company representatives, also formerly located in Bldg. 33, are now in Bldg. 2 on the east side adjacent to Bldg. 16. These include representatives from Rolls-Royce Ltd., Dowty Rotol Ltd., Lockheed Corp., Central, Trans Texas, Caribair, Hawaiian airlines.

All extensions and zone numbers are unchanged.

Shop Classes Start Soon at Lindbergh

Two in-plant shop courses begin this month at Convair, Lindbergh Field, with Wayne Turner of educational services accepting enrollment.

Shop Math will start Oct. 19 and continue Tuesdays and Thursdays throughout the rest of the semester. Ed Gurling of Dept. 400 is instructor.

Blueprint Reading and Sketching, taught by William Sherman of Dept. 300, will be held Mondays and Wednesdays beginning Oct. 25.

Both courses will be held in Classroom 5 of Bldg. 14. Sessions are from 3:45 to 6:15 p.m.

Turner asks that those planning to take the courses preregister with him and attend the first class session. Turner is located in Bldg. 16, ext. 491, Lindbergh Field.

Club Sponsors Two Courses

Plans for "Speechcraft" and "Speedreading" courses for Convair personnel have been announced by the Convair Management Club education committee.

Members of the Convair Dynamic Toastmaster Club will serve as instructors for the eight-week "Speechcraft" course to be held from 5:10 to 5:40 p.m. Thursdays Oct. 21 through Dec. 16 in the CRA Clubhouse auditorium.

The course will cover various aspects of public speaking including confidence, building a speech, evaluating a speech, visible and audible expression in delivery and chairmanship of meetings. The class will be limited to 30 students. Cost will be $4 for club members and $6 for others.

Dr. Alice P. Sterner of The Bishop's School in La Jolla will instruct the 11-week course designed to increase reading speed. Sessions will be held from 5 to 7:30 p.m. Mondays, Oct. 11 through Dec. 20 in Bldg. 17, Room 1, at Kearny Mesa.

The class will be limited to 25. Cost will be $4 for Management Club members and $6 for other employes. Individual diagnostic reading tests, vocabulary building techniques, films and workbooks will be utilized.

Further information may be obtained by phoning Robert M. Williams, chairman of the education committee, at ext. 1122, Kearny Mesa.

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Memory Course Starts At Convair Next Week

A nine-week memory course designed to teach Convair employes an easy way to remember names, faces, numbers, and facts will be held from 5 to 8 p.m. Wednesdays beginning next week in the Bldg. 8 cafeteria at Kearny Mesa.

In the "names and faces," part of the course, students will use actual photographs and names of 100 top Convair management people.

The course is sponsored by the Convair Management Club educational committee and will be taught by Donald Robinson, memory expert.

Cost will be $10 for Management Club members and $12 for others. Registration slips are to be sent by plant mail to Bob Williams, educational committee chairman, mail zone 586-00.

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Self-Improvement Class Begins Monday

Convair people still have a few days left to register for the Dale Carnegie self-improvement course offered through Convair Management Club auspices at discount prices.

Bob Williams, club education committee chairman, said that reduced price to members is $150 and non-members, $160.

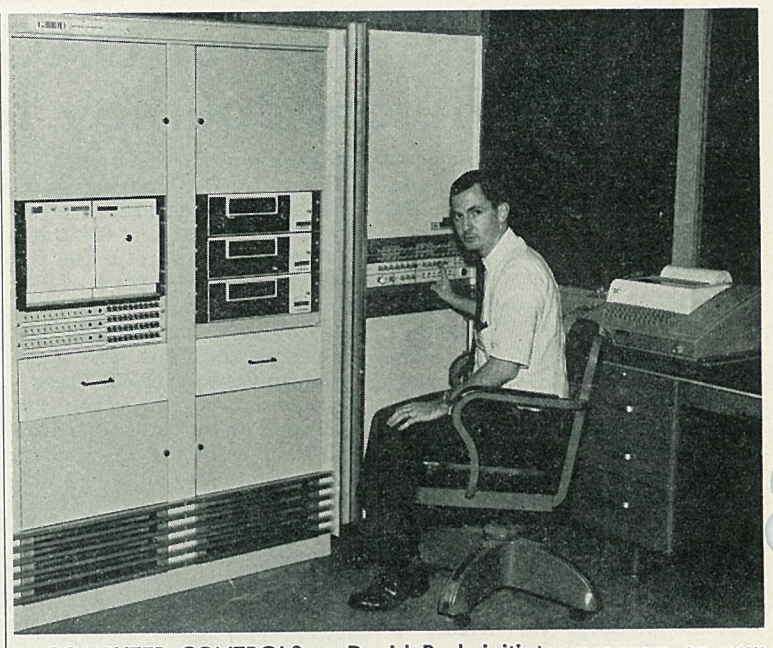
The course begins next Monday (Oct. 18), 5 p.m., in Kearny Mesa Bldg. 2 presentation room and continues for 15 weeks. For information or registration contact Williams at ext. 1122, Kearny Mesa.

Vandenberg Couple Own Show Winner

"Windy Hill China Doll," a miniature Schnauzer show dog owned by Jim and Pat Julian of Depts. 576-17 and 576-3 at Vandenberg AFB, recently won numerous awards in shows in San Francisco, Ventura, and Santa Maria and has five points toward an AKC championship.

She has won open bitch and winners bitch events at both the Golden Gate Kennel Club show in San Francisco and the Ventura County Dog Fanciers show in Ventura and took open bitch, winners bitch, best of breed and terrier group wins at the AKC sanctioned match in Santa Maria.

Mr. and Mrs. Julian are interested in corresponding with other Convair employes who are Schnauzer show dog owners.



COMPUTER CONTROLS — David Rush initiates program on new DDP-116 digital computer in system developed by General Dynamics to control three 231-R analog computers. New system automates many operations previously performed manually for setup, operation and maintenance of analog computers in engineering computer laboratory. Laboratory facilities are used in wide range of research and development studies.

Analog Computer Facilities Expanded At Pomona Division

Pomona division's analog computer facilities have been expanded with the addition of a general purpose DDP-116 digital computer.

The DDP-116, made by Computer Control Co., will be used to control three Electronic Associates 231-R analog computers in a time-sharing mode, according to J. L. DeDiemar, head of the engineering computer laboratory.

The combined system, developed by General Dynamics, will automate many operations previously performed manually in conjunction with the setup, operation and maintenance of these analog computers which were put into service last year.

Each 231-R computer will have a typewriter for input/output to the controller system. Storage of large amounts of data and programs will be provided by a custom magnetic tape system designed for the DDP-116 by the computer laboratory.

Pomona's computer laboratory facilities are used in a wide spectrum of engineering studies for research and development programs, utilizing a variety of special equipment in addition to the general purpose analog computers.

Terrier, Tartar Funds Approved

The U. S. Navy has awarded an additional $2,055,208 to Pomona division for retrofit work on Terrier and Tartar missiles, Congressman Glen Lipscom announced Oct. 2.

The Bureau of Naval Weapons is exercising an option on an existing contract with General Dynamics to change components in Terrier and Tartar missiles, the Congressman said. Previous work under the contract has amounted to $2,802,805.

Terrier and Tartar supersonic missiles have been in production at Pomona for a number of years.

Terrier, which became operational in 1955, arms 31 U. S. Navy ships, primarily guided missile cruisers and frigates. Tartar, operational since 1960, arms 26 U. S. Warships, mostly destroyers.

Movie Wax Museum Price Cut Offered

Studio Club membership cards providing 20 per cent reduction in admission prices for the Movieland Wax Museum in Buena Park are now available for Convair families upon request at all employe services outlets.

The wax museum is located one block from Knotts Berry Farm. More than 2½-million people have visited it since its opening in 1962. It is open from 10 a.m. to 9 p.m. Sunday through Thursday and from 10 a.m. to 10 p.m. Fridays and Saturdays.

Buckler Joins Canadair Ltd.

I. S. Buckler transferred Sept. 27 from Pomona division to Canadair, Ltd., as assistant program manager, CL-89 technical program.



I. S. Buckler

At the same time, three Pomona men — R. E. Hawes Jr., an engineering section head; Robert F. Schulz, senior systems engineer; and Eugene C. Powers, test planning supervisor — were placed on loan to Canadair for six months.

C. W. Cox and R. H. Carpenter, Pomona senior reliability engineers, previously had gone to Canadair on a loan basis.

A native of Woburn, Mass., Buckler attended the University of California at Los Angeles and Boston University, majoring in electronics and communications. He joined Pomona (then the Guided Missile Division, at San Diego) in 1951 as an electronics engineer in test equipment. Later he became assistant project engineer on the Terrier program and in 1959 was appointed supervisor of flight instrumentation and telemeter design group. He was project engineer for Redeye research and development tests and seeker at time of transfer to Canadair.

Missile Command Chief Will Speak

Miles R. Hardenburg, chief requirements and policies division of U. S. Army Missile Command at Redstone Arsenal, will speak at the Oct. 14 meeting of San Bernardino Section, American Society for Quality Control.

Hardenburg's subject will be "What Zero Defects Can Do for Me."

The meeting at Robbie's Restaurant, Pomona, will begin with a social hour at 6 p.m. Dinner is at 6:30 and program at 7:30 p.m.

For reservations contact Program Chairman R. C. Heckman, ext. 3264, zone 27-1.

Government, Dynamics Teams Join in Complex Apollo Ship Program

A milestone in the Apollo Instrumentation Ships program was passed last month when the first ship, the Vanguard, was floated out of its basin at Electric Boat's Quincy, Mass. yard.

Vanguard is the first of three ships to be used in the Apollo mission to put a man on the moon for exploration and return him safely to earth. Many systems and subsystems must be developed and put through rigorous tests and trials before the ultimate objective can be achieved.

A complex network to monitor, control and communicate with Apollo space vehicles is being built all over the world. With approximately three-quarters of the earth's surface covered with oceans, certain key stations in this network must be built on floating platforms.

Three Apollo instrumentation ships under construction by General Dynamics are an essential part of the global tracking network for manned lunar missions. The vessels, deployable in any of the world's oceans, will ensure accurate and complete control of Apollo space vehicles, especially during intervals when spacecraft are out of sight of land-based stations.

Eleven discrete subsystems on each of the Apollo ships will provide tracking, communications, telemetry, navigation and data processing. The subsystems are unified S-Band tracking, C-Band tracking, telemetry, communications, ship position and attitude measurement, acquisition and stabilization network, timing, central data processing, command control, operations control and mission control.

The first ship, Vanguard, will be mission-ready in June, 1966. It will be concerned primarily with the insertion of the space vehicle into the earth orbit, the first stage of the journey to the moon. At this point, data will be taken that will permit a "go/no-go" decision to be made whether to continue the mission or to return the vehicle to earth.

The other two ships under construction, Redstone and Mercury, will monitor the injection of the space vehicle into the lunar trajectory for its flight to the moon.

SHIP CONVERSION

The Apollo ships are being constructed by making extensive modifications to three T-2 tankers of the Mission class, built during World War II. The conversion includes cutting out the middle section of each vessel, about 300 feet long, and replacing it with a longer and wider section to produce a new ship, 595 feet in length, and 75 feet in beam. This method of construction has made it possible to salvage the stern end of the old ship, containing the propulsion and other machinery, and has saved the expense and time required to build a new bow section.

The new, longer mid-body of the ship provides the space for the electronic and communications equipment required for the Apollo mission. It also provides living facilities for nearly 200 men. About half will be scientists and technicians to man the technical facilities. The remainder will operate the ship.

The ship contains three lounges, a physical training room, workshops, hobby shop and a library. There also are storage facilities for spare parts and equipment, conference rooms, briefing rooms, offices, photographic laboratories and all the normal hotel facilities essential to the mission.

Space has been provided for three electronic computers and many other items of electronic and communications equipment. In addition to the normal ship-to-shore and ship-to-ship communications, space is provided for a communication system that approximates 10 commercial radio stations operating simultaneously. A timing system is being provided in duplicate that is so accurate that it would lose only one second in 300 years. All this electronic equipment is contained in an area approximately the size of a football field.

Turbogenerators will supply more than 4,500 kilowatts for the electronic equipment, enough power to supply a town of about 5,000 people. About 3,000 miles of wire will be used to interconnect various items of equipment on each strip.

Reserve space has been provided for future growth, including a complete weather station with balloon and sounding-rocket launching facilities. Space has been reserved also to satisfy future satellite and space vehicle communications requirements. The ship structure itself has been built to permit the later addition of larger and more powerful antennas.

The first ship was floated out exactly one year after the award of the construction contract to General Dynamics. It was floated to an outfitting pier where construction and installation will be completed.

APOLLO SHIPS TEAM

The government and General Dynamics have formed a closely coordinated, operational team to implement the program. The government is supplying 30 per cent of the ships' systems and equipment. General Dynamics is supplying the remainder.

GOVERNMENT TEAM

The contracting agency is the Department of the Navy. The Instrumentation Ships' Project Office (ISPO), organized within the Navy's Bureau of Ships under the Chief of Naval Material, has primary responsibility for the government's management of the program. The project office is staffed with Navy, National Aeronautics and Space Administration (NASA), and Air Force personnel. It is managed by the Navy with deputy managers from NASA and the Air Force. Ship requirements are established for the Apollo missions by NASA, and for Department of Defense missions by the Navy and the National Range Division of the Air Force, including both Eastern and Western Test Ranges.

The Military Sea Transport Service is responsible for the ship's operation, while the Air Force, with assistance from NASA, will operate the instrumentation complex during the Apollo mission.

Day-to-day monitoring of progress, engineering coordination, inspection and approval is performed at the Quincy shipyard by representatives of the Navy's Supervisor of Shipbuilding-Groton. Because a high percentage of the persons manning the ships during operations will be civilians, additional safety requirements must be met. These requirements are safeguarded by the Coast Guard and the Public Health Service, working with the American Bureau of Shipping.

DYNAMICS TEAM

Four divisions of General Dynamics supply the industrial effort for engineering, construction and testing of both the ship and the instrumentation complex.

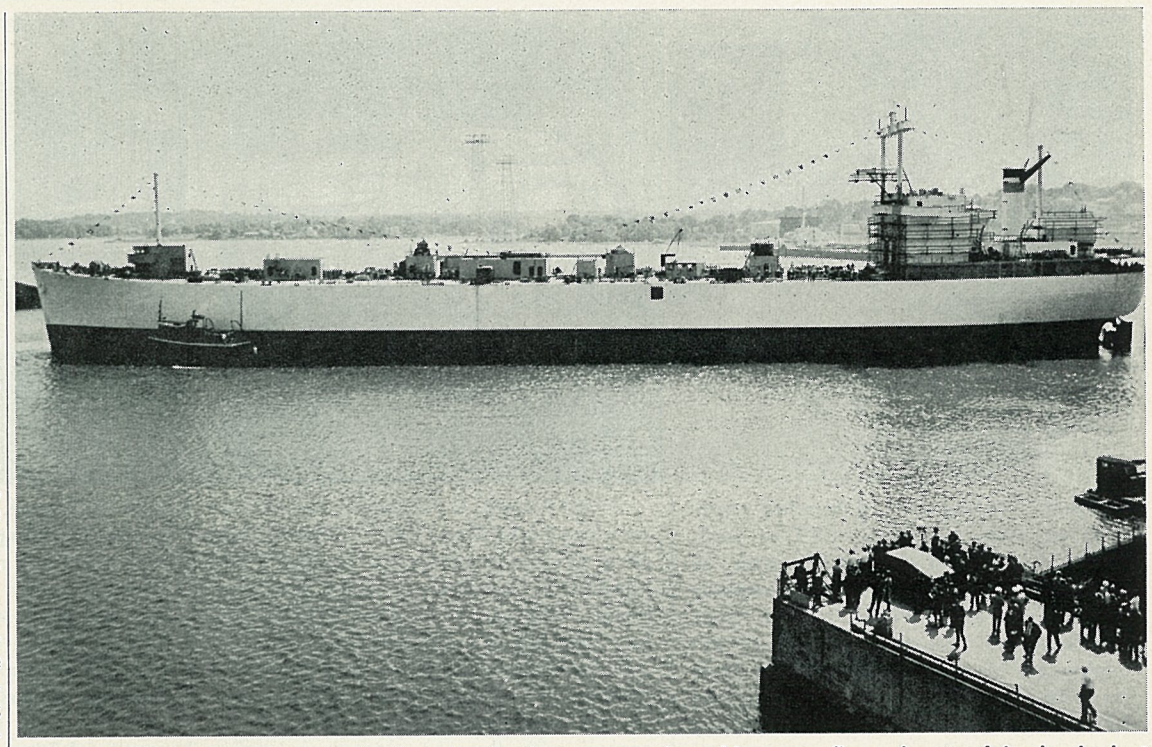
Electronics division, Rochester, is prime contractor with overall general responsibility for the mechanical, schedule and financial management of the program. Management implementation and control are the responsibility of the Apollo Instrumentation Ships Program office located at the Quincy shipyard and under the supervision of Electronics division.

In addition, Electronics division supplies seven of the 11 major electronic systems that make up the instrumentation complex: communications, telemetry, central data processing, timing, command control, operation control, and acquisition and stabilization network.

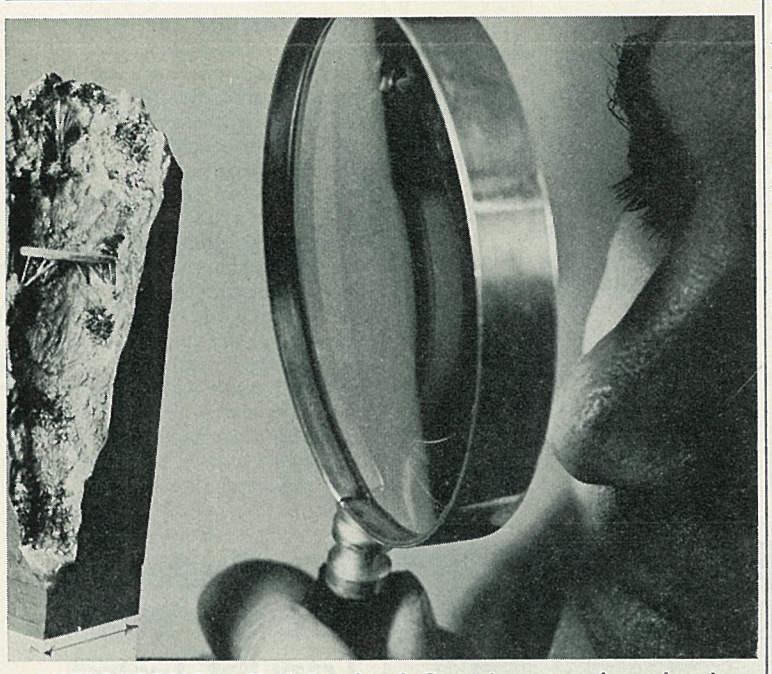
Electric Boat division is performing the engineering and shipyard work associated with the construction of the new midbody, rework of the retained bow and stern sections, and refurbishment of the ships, machinery, piping, electrical equipment and propulsion systems. It also is responsible for supplying the all-important ship position and attitude measuring system, one of the systems in the instrumentation complex, as well as for the installation of all of the equipment on board ship.

Convair division supplies the 30-foot antennas and the feed systems for the telemetry systems. It also is developing programs for the central data processing computer.

Stromberg-Carlson is providing communication switchboards and intercommunication and dial telephone equipment.



DEBUT — Vanguard, nation's first Apollo Instrumentation ship, was floated out of its basin last month at the Quincy, Mass. yard, marking structural completion. When fully completed next year it will serve as seaborne tracking station. Two sister ships are also being readied.



MICROSCOPIC — Karl Busch of Convair peers through microscope at tiny diorama — canyon complete with river, trees, train, railroad trestle — exhibited at National Model Railroad Association convention in Vancouver, B.C.

1/1200th Scale

Marvel of Miniature Canyon Displayed at HO Convention

When the National Model Railroad Association contest rules for dioramas called for 100 ft., any scale, Convair's Karl Busch took them at their word.

His tiny representation of a canyon, entered in the contest at the recent Vancouver, B.C., national convention was built to 1/1200th scale "just for fun," he said. It measures exactly 1 inch square and a couple of inches high.

None of the other scenic entries were smaller than 1/87 scale—built to HO scale of 13 inches to 100 feet.

Busch said he spent about 10 hours altogether making his miniature canyon — mostly under a microscope so he could see where to position the minute bits and pieces. He displayed it under a microscope, too!

The sheer canyon wall is of plaster realistically painted in the reds and purples canyons usually come in. Trees (bits of fern) cling precariously to the rocky cliffs. At the bottom of the crevice far below can barely be seen a blue ribbon of a river.

A speck of a locomotive is steaming into sight from the open cavern of a mountain tunnel to start its journey into space over the curving railroad trestle bridging the canyon.

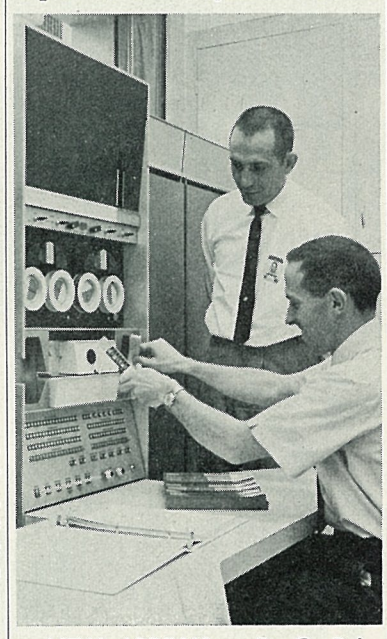
The spider-web bridge is made of brass wire and channel. The locomotive is a piece of plexiglass.

Busch, secretary and past president of the San Diego Model Railroad Club, said his microscopic scene didn't win a prize but certainly attracted the biggest crowd.

New PDP-7 Computer Delivered To Support Science Programs

Stromberg-Carlson Data Products accepted delivery early this month on a sophisticated computer to support S-C engineering and scientific programs and high-speed data processing equipment developed by S-C.

The PDP-7 computer is one of the latest models produced by Digital Equipment Corp., Maynard, Mass., said E. A. Bates, S-C group engineer in applications engineering and programming. He explained that acquisition of the computer will speed solution of engineering design problems. S-C computing requirements had, until now, been accomplished on Convair equipment at the Kearny Mesa plant.



NEW ARRIVAL — R. C. Pyle, S-C senior electronic data processing analyst, changes tapes on new PDP-7 computer just installed in Data Products. Don Bergstrom, staff engineer in S-C products support, observes.

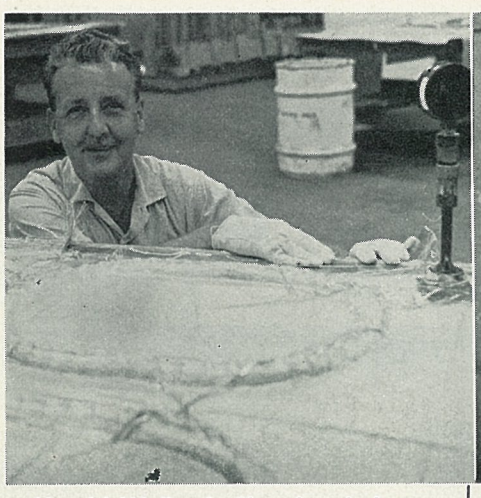
Although the PDP-7 will be used primarily by engineering for electronic design, systems analysis, generation of wiring lists and other data, it also is destined for S-C equipment demonstrations and, ultimately, equipment checkouts.

"We plan to interface the computer on-line in support of our S-C equipment—the 3070 line printer, 1090 direct view display, 1100 inquiry station display and 4020 and 4400 computer recorders," Bates said. "It will be of great value to us in demonstration and checkout of our own data processing equipment."

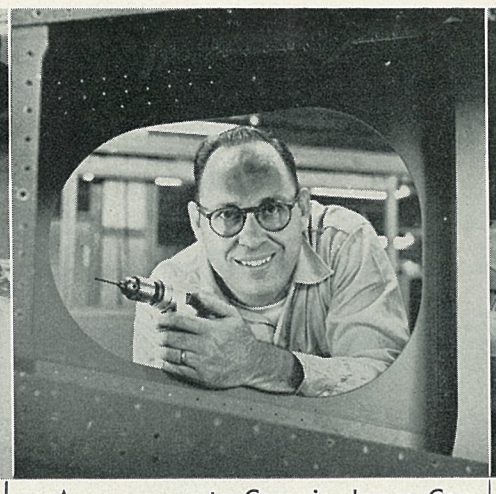
It also will be used for maintaining utility and applications programs submitted by members of UAIDE, users of automatic information display equipment.

Stromberg-Carlson engineers and other personnel who will be using the PDP-7 just completed two-week, 20-hour classes learning the computer's operation and FORTRAN, mathematical computer language, so that they can program their own problems. R. C. Pyle, S-C senior electronic data processing analyst, instructed.

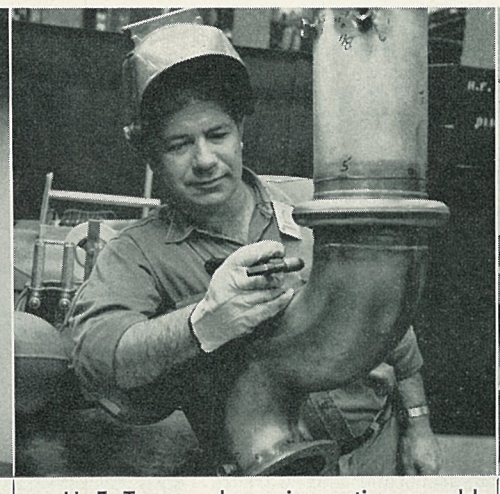
The new computer, now installed at the Hancock St. facility, has an 8,192-word random-access core memory with 1.75-microsecond cycle time, and a computation rate of 285,000 additions per second. It is leased by S-C at the cost of $4,000 a month.



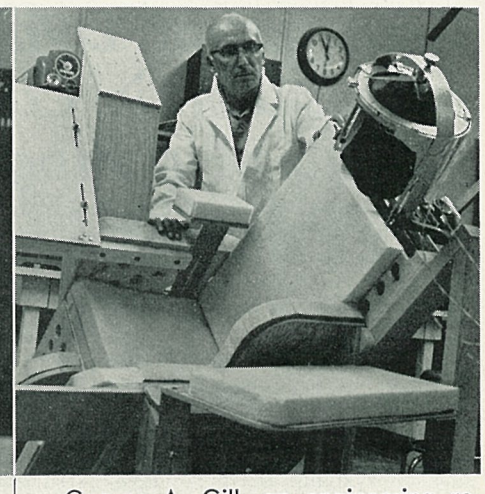
Harold Wallendorff, a bonded structures assembler in Dept. 019 at Lindbergh Field, first joined Convair in 1940. He has been with the company continuously since 1950, until a year ago assistant foreman in primary assembly on all the Convair planes from the B-36 to the 880/990 transports. The last year he's been in metalbond layup preparing parts for the autoclave oven. Wallendorff says he doesn't have time for hobbies — he's too busy taking care of several rental properties. Most of his weekends are spent plumbing and doing yardwork. Wallendorff and his wife, Marie, make their home on Columbia St.



A newcomer to Convair, James Cox was hired into Dept. 041 six months ago as a structures assembler in the C-141 horizontal stabilizer area at the Lindbergh Field plant. At the time his picture was taken he was riveting on a C-141 tie box structure. He had been with another San Diego aerospace company for six years before joining Convair. He served with the U.S. Navy six years, from 1952-58, during the Korean War and then settled in San Diego, doing technical writing. He and his wife, Marjory, make their home in Pacific Beach where she teaches in Junior High. Water skiing on Mission Bay and trips to the back country occupy their weekends.



H. F. Towne, shown inspecting a weld made by using helium gas in the K-monel surface of a fuel manifold booster pump inlet for an SLV-3, is a combination welder in major sub-assembly Dept. 759-0. Towne has been a Convair employe five years and has 15 years experience in heli-arc welding. He enjoys picnics at the beach with his wife and seven children (three girls and four boys). Towne's department had a rejection rate of only 3/10 of one per cent on the last 4,000 inches of inspected welding, compared with an industry-wide average rejection rate of 14 per cent. The department received "Craftsmen of the Month" honors in June.



George A. Gill, an engineering research and development technician who calls himself a "jack of all trades" in life sciences Dept. 592-0, works on a Coriolis chair to be used in head motion studies. Since coming to work at Convair in 1951, Gill has worked on everything from helmets for Pogo Stick pilots to Apollo mockups and says he's "enjoyed every minute of it." He's married and has three children and formerly served in the Coast Guard as a disbursing officer and worked as an auditor and accountant for the Nebraska Light and Power Co. in Missouri. He and his wife recently returned from a three-week fishing trip to British Columbia.

Con-Trib-Club OKs Donations To San Diego Charitable Groups

Convair Employes' Con-Trib-Club has donated $10,000 to the Home of Guiding Hands for retarded children.

J. K. Field, Con-Trib chairman, said that the money was earmarked for the organization's building fund. Total cost of the initial construction phase will be over $2 million.

An additional $20,000 was voted to other San Diego charitable groups by Con-Trib committees last month.

Donations approved by Kearny Mesa committee were: Diabetes Association of Southern California, $540; Travelers Aid Society of San Diego, Inc., $1,000; Bayside Settlement House, $500; SD County Epilepsy Society, $1,000; Crossroads Foundation, $650; Pathfinders of San Diego, Inc., $500; Twelfth Step House, $500; Pastoral Counseling Center, $500; Muscular Dystrophy Associations of America, $1,500; Sheltered Workshops of San Diego, $3,000; St. Vincent dePaul Society, $500.

Lindbergh Field committee approved contributions to Boys' Clubs of San Diego, Logan Heights Branch, $500; Community Welfare Council of San Diego, $2,500; Arthritis and Rheumatism Foundation, $500; Children's Dental Health Association of San Diego, $500; Muscular Dystrophy Association — San Diego County Chapter, $500; National Cystic Fibrosis Research Foundation, $250; Crossroads Foundation, $500; Pathfinders, $500; South Bay Pioneers, $500; St. Vincent dePaul Society, $250; City of Hope—Duarte, $500; San Diego County Epilepsy Society, $500; San Diego Children's Home, $500; International Guiding Eyes, Inc., $1,000.

Grand Prix Rodeo Tickets Offered

Reduced-price tickets are now on sale at employe service outlets for the Grand Prix Championship Rodeo to be held Oct. 22 through 24 in Westgate Park.

Performances are to be at 8 p.m. Oct. 22 and 23 with a final matinee at 2 p.m. Oct. 24. Employe services has $3 reserved seat tickets for $2.50 and $2 general admission tickets for $1.50. Special reduced price tickets for children for the Oct. 24 performance only are $1 each.

PHIL CULBERTSON SHIFTS TO NASA

Philip E. Culbertson, who had held Convair engineering positions for more than 10 years, resigned as director of systems development last month to become the first director of lunar missions for NASA's Office of Manned Space Flight in Washington, D.C.

Culbertson's new duties with NASA will involve research on space exploration to follow the current Apollo program and may involve placing of shelters on the moon's surface, development of a vehicle and creation of new equipment needed to sustain life on the moon.

After joining Convair as a design specialist in 1952 and working in the F-102 and F-106 fighter programs, Culbertson held a number of key posts in development of Atlas launch vehicles.

PROPERTY TRANSFER TOPIC FOR TALK

Stephen L. Newnham, San Diego attorney, will give the final lecture in a series on estate planning for members of the Convair Management Club at 5 p.m. Monday, October 18, in the Bldg. 2 presentation room at Kearny Mesa. He will talk on "Property Ownership and Transfer."

Atlas 34-D Successfully Launches Research Satellite For AF

Atlas 34-D successfully launched the Convair-built OV1-2 research satellite, an engineering model of the OV1 and a side-mounted scientific "passenger pod" from Vandenberg AFB at 2:10 a.m. Oct. 5 for the Air Force's Office of Aerospace Research.

L. E. "Vern" Ottem, OV1 project manager, called the launch and operation of the OV1-2 a "beautiful operation all the way" and said the orbit achieved by the satellite was "near perfect insofar as matching what we had predicted."

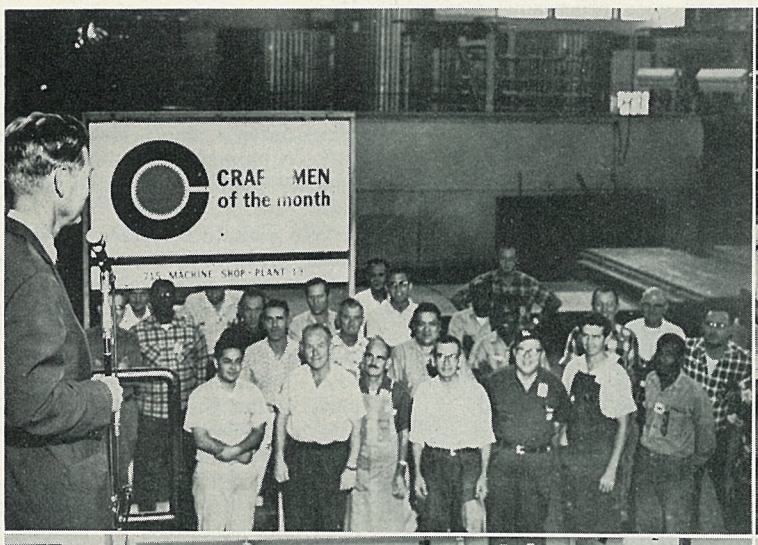
Ottem, E. R. Gauthier, his assistant program manager, W. T. Dorrance, special programs director, and a number of other Convair employes were at Vandenberg for the launch.

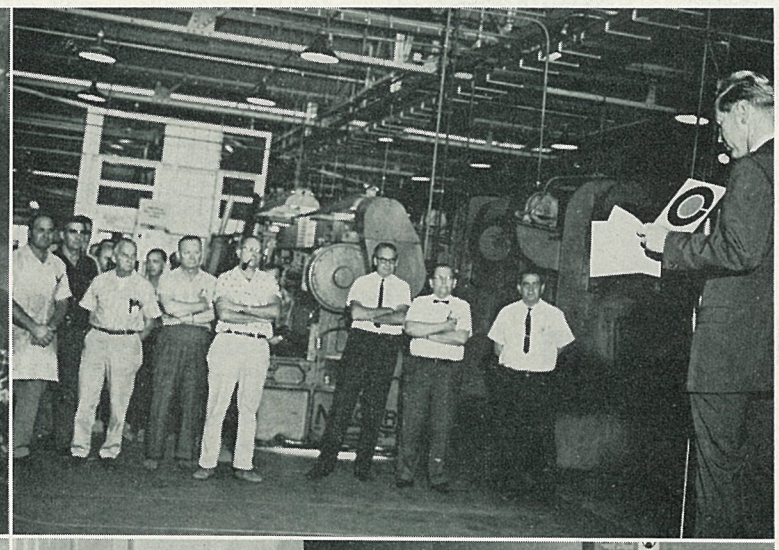
A door on the Atlas "nose" opened about five minutes into flight and the OV1-2 vehicle was ejected. After being maneuvered into its proper pre-programmed attitude, the solid-fuel motor of the OV1-2 was fired. The satellite separated from its propulsion module about 13.9 minutes after lift-off and went into orbit with an apogee of 1,871 miles.

Only delay in the Atlas 34-D launch countdown was a 7-minute 10-second hold to permit a Southern Pacific train to pass on nearby tracks before lift-off.

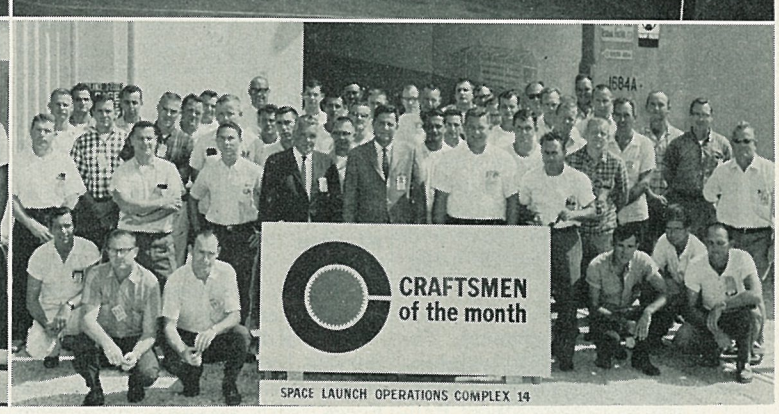
Ottem said the OV1-2 satellite was generating so much data that F. E. Holly, experiment program manager for the Bio-Physics Group at the Air Force Weapons Laboratory at Kirtland AFB, N.M., had indicated there would have to be a reduction in its duty cycle.

The satellite carried a group of space radiation detection instruments to measure ambient radiation environment and detect radiation attenuated by various thicknesses of shielding material. The "passenger pod" carried instrumentation to perform experiments for the Naval Research Laboratory and Cambridge Research Laboratory. This included two spectrometers to measure the positive ion composition and density of the upper atmosphere, ion chambers and magnetometers to plot Lyman-Alpha radiation of the night sky, a receiver to measure solar flare noise and an ultra-sensitive receiver to detect power line radiation from ground sources.









THEY HEAD THE LIST — August winners of Convair Craftsmenship Awards are shown receiving congratulations. At top left J. R. Dempsey addresses members of machine shop (Dept. 715) at Plant 19. At top right he honors members of Dept. 001, Lindbergh Field. Lower left: Don Fagan, operations manager, and Curt Johnston, chief engineer, attended award ceremony for MAB-5 employes at Western Test Range. Lower right: ceremony at Complex 14, Eastern Test Range.

Taping Rescheduled For Convair Wives' 'Crazy Hat' Contest

Taping of Convair Wives in their "crazy hats," originally set for the first of this week, has been rescheduled for this Friday night, Oct. 15, at KOGO (Channel 10) studios, Hwy. 94 and 47th St.

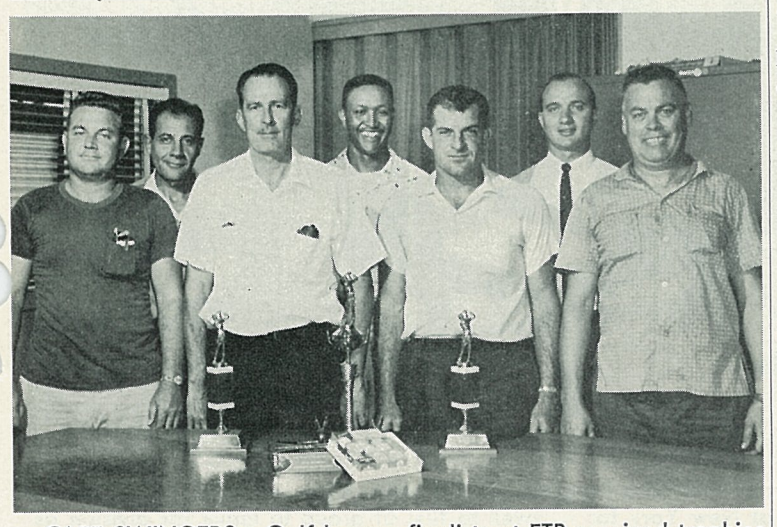
Wives are urged to bring along their husbands and children to the 8:15 p.m. TV taping. All will meet in the coffee shop at the station and tour the TV studio after the camera pans the audience in their outlandish headgear.

The show will be aired Oct. 17, at 2:30 p.m., on the "Product Preview" program.

All wives intending to compete in the annual "Crazy Hat" contest which will be next Wednesday (Oct. 20) at Romaine's Restaurant are asked to call Lou Nordeck, 273-1140, or Susan Cavanagh, 279-1633, for reservations.

The other activity of the month will be a family potluck and Halloween costume party Sunday (Oct. 31) in lieu of the regular fourth Wednesday potluck. The affair will begin at 11 a.m. in the CRA Missile Park picnic area. Wives who can assist are asked to call Mary Gaus, 273-5198, or Frances Brooks, 469-8793.

Sports & Recreation



CAPE SWINGERS—Golf league finalists at ETR received trophies recently. Front row: B. B. Belt, 3rd flight runner-up; O. H. Reed, 1st flight winner; C. Heinbaugh, 2nd flight winner; E. B. Kelly, 3rd flight winner. Back row: C. Amedeo, 1st flight runner-up; J. L. Smith, consolation flight runner-up; K. R. McCabe, consolation winner. J. Jeffers, winner of second flight, was not present for photo.

Williamson and Locke Win In European-Style Rally

Bill Williamson and Sherry Locke, both of Dept. 141-3, maneuvered their Corvette over a rugged back country course to win the Sept. 26 European-style rally sponsored by CRA Sports Car Club.

"La Separateur," as the rally is termed, soon "separated" experts from amateurs with only 27 cars out of the 44 entries finishing.

Many cars got stuck in the sand and others had blow-outs on the rough roads.

The 300-mile course wound over the dirt and sand roads of desert and mountains and passed through San Pasqual Valley, Ramona, Borrego, Vallecito, Barrett Lake, Lyons Valley, Otay Lakes.

Official time set for the pre-announced course by Rallymaster Bob Fountain was 6 hours, 28 minutes.

Williamson, driver, and Sherry Locke, navigator, finished with only .90-point error. Second and third places went to Los Angeles teams. Ted Sparks, driver, and Walt Schmidt, navigator, driving a Mustang, scored 1.61-point error. Bob Chapman, driver, and Cam Watson, navigator, in a Porsche, had 5.61-point error.

Convair drivers finishing among the top ten were: Jack Gallant, fifth; Marvin Jenson, seventh; Dennis Scannell, ninth; Ray Simpson, tenth. Jenson, Scannell, and Simpson are all in Dept. 141-3.

Results of balloting for new officers will be announced at tonight's (Oct. 13) meeting, 7:30 p.m. in the Convair cafeteria. Officers will be installed at a dinner meeting Oct. 23 at Gillespie Field Clubhouse.

Bonair Flyers Fleet Grows

Two more light craft are available for use of Bonair Flyers with the recent delivery of new Cessna 150 trainers to Jim's Air Service, Lindbergh Field, base of the CRA flying club.

This brings to five the number of Cessna 150s owned by Jim's Air Service, with three others on order.

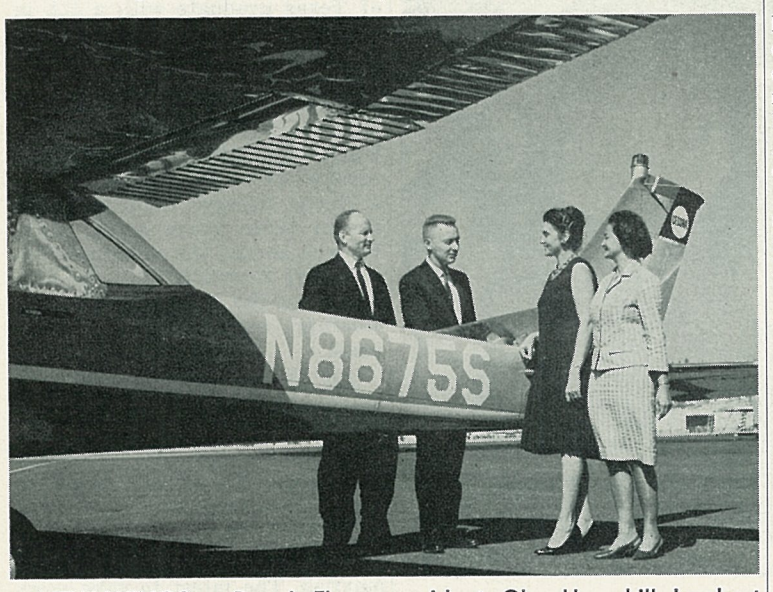
Other planes available to club members at discount rates through CRA are two four-place Cessna 172s; a six-place Cessna 205; three four-place Bonanzas; and a four-place Debonair.

Information on pilot training and club activities, including the coming trip to Baja California the first weekend in November, may be obtained from the club president, Glen Hemphill, ext. 3351, Kearny Mesa.

CRA Rockhounds See Death Valley Shots

CRA Rockhounds will view colored shots of Death Valley tomorrow (Oct. 14) evening when they meet at 7:30 p.m. in the CRA Clubhouse to see a slide showing by Mr. and Mrs. Frank Rohan.

Details of this weekend's (Oct. 16-17) field trip will be discussed. Destination will be the Chuckawalla Mts., east of Salton Sea. Charles Purdy is in charge of arrangements.



NEW WINGS — Bonair Flyers president, Glen Hemphill; Lambert "Red" Taylor, operations officer; Carolyn Buman, all of Convair; and Terry Vasques of Electronics look forward to flying new Cessna 150 now available for CRA pilots at Jim's Air Service.

Junior Rifleers Team Triumphs

Eight Junior Rifleers and two coaches traveled to South El Monte Sept. 25 for the annual Southern California Prone Rifle Match.

Richard Ellis, John Dawson, David French and David Farrelly Jr., of the "A" team fired under tricky wind conditions and took second place team medals in competition against 20 other teams.

"B" team members Randy Johnson and Ken Moffat were firing for the first time at 100-yard range. Coaches Dave Farrelly Sr. and Ivus Ellis said Randy and Ken, along with the other two team members, Robert Eaton and Terry Farrelly, turned in creditable scores.

Individual matches on the "Dewar Course" (20 shots at 50 yards plus 20 shots at 100 yards) were fired twice against 160 competitors. Richard Ellis won a third place medal in the master class aggregate. David French won first place expert class medal and the grand aggregate first place.

Richard Ellis won three trophies at the national rifle matches in August at Camp Perry, Ohio, two for shooting big bore (.30 calibre) and one for small bore (.22 calibre). John Dawson also attended and came home with a small bore trophy.

Coineers Map Display Plans

Convair Coineers are in the midst of preparing their collections for display in the California State Numismatic Association convention which will be held in San Diego early next month, Nov. 4-7.

Al Baber of Dept. 195-4, general chairman of the convention, outlined the program for the convene at last month's Coineers' meeting. He said that at least 65 coin dealers and 100 exhibitors are expected to attend.

The CRA group's next regular meeting will be Oct. 20 at 7:30 p.m. in the Convair cafeteria, Pacific Hwy.

The drawing will include two U.S. $1 gold pieces and the door prize will be a 1961 U.S. proof set. The give-away coin for each person present will be a 1964 Mexican 50-cent piece. An auction will be held and refreshments served.

'Adventurers' Chosen As New Club Name

CRA's exploring group has chosen a new name—Adventurers.

Known as the Explorers since the club was established four years ago, members decided to adopt a new club name to avoid confusion with other groups carrying similar labels. "Adventurers" was chosen as more descriptive of the club's wide range of outdoor activities, said Commissioner Dick Bowen.

This month's outing for the hardier will be a back-pack climb of Mt. Whitney over the weekend of Oct. 23-24. Jim Moore, expert mountaineer who returned recently from an expedition into the Andes of Peru, will lead the excursion.

The entire club will see a slide showing on the Flying Samaritans to be presented by Dick Dilworth at the Oct. 20 meeting, 7:30 p.m., in CRA Clubhouse, Kearny Mesa.

Tickets to Charger Games Are on Sale

Charger tickets to the next home game Oct. 31 now are on sale at Convair employe services outlets at a $1 reduction in price.

The San Diego pro football team will meet the Boston Patriots at 1:30 p.m. at Balboa Stadium.

Reserved seat price for Convair, Electronics, and S-C fans is reduced from $3.50 to $2.50.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS is by noon, Oct. 20, ext. 3322, Kearny Mesa.)

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ADVENTURERS (former Explorers Club)—Meeting Oct. 20, 7:30 p.m., CRA Clubhouse.

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BICYCLE CLUB — Organization meeting Oct. 21, 7 p.m., Room C, CRA Clubhouse.

BRIDGE — Play every Friday night, 7:30 p.m., CRA Clubhouse. Master point night Nov. 5.

CERAMICS — Classes Tuesdays and Thursdays, 10 a.m.-2 p.m., 7-11 p.m., CRA Clubhouse.

COINEERS — Meeting Oct. 20, 7:30 p.m., Convair cafeteria, Pacific Hwy.

DELTA DIVERS — Meeting Oct. 13, 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING — Meeting Oct. 20 Kearny Mesa Clubhouse. Potluck at 6:30 p.m., business session, 7:30.

ICE SKATING — GD skate nights Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

JUNIOR RIFLEERS — Shoot Oct. 16, 8 a.m., Gillespie Field. Meeting Oct. 20, 7:30 p.m., CRA Clubhouse.

JUNIOR SCIENCE — Meeting Oct. 15, 7:30 p.m., CRA Clubhouse.

MOVIES—Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35c.

PISTOL CLUB — Shoot 9:15 a.m., Oct. 24, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting Oct. 20, 7:30 p.m., Harbor Drive club headquarters.

RIDING CLUB — Meeting tonight (Oct. 13), 7:30 p.m., CRA Clubhouse.

ROCKHOUNDS — Meeting tomorrow (Oct. 14), 7:30 p.m., Field trip to Chuckawalla Mts. Oct. 16-17.

SPORTS CAR CLUB—Meeting tonight (Oct. 13), 7:30 p.m., Convair cafeteria, Pacific Hwy. Installation dinner Oct. 23, Gillespie Field Clubhouse.

TABLE TENNIS — Instruction Tuesdays, 7 p.m. Play Mondays through Thursdays, 5:30-10 p.m.

WIVES — TV taping "party" changed to Oct. 15, 8:15 p.m., KOGO station. "Crazy Hat" contest and luncheon Oct. 20, Romaine's Restaurant. For reservations call Lou Nordeck, 273-1140, or Susan Cavanagh, 279-1633. Halloween costume party and family potluck Oct. 31, 11 a.m., CRA Missile Park.

Bicycle Club Plans Organization Meet

Organizational meeting of Convair Recreation Association's newest activity, a Bicycle Club, is set for next Thursday (Oct. 21), at 7 p.m. in Room C, CRA Clubhouse, Kearny Mesa.

All employes and their families are urged to turn out for the first meeting of the club, said Pete Beyrer of CRA, who is directing formation of the activity.

Chan Jackson, Convair engineer and vice president of the San Diego Chapter of American Youth Hostels will be guest speaker. He will show shots of the Youth Hostels' recent bicycle trips around the area and will bring a 10-speed and a tandem bicycle for inspection.

Officers will be elected and first trips planned.

For information call Beyrer at CRA Headquarters, ext. 1111, Kearny Mesa.

Bridge Club Starts Master Pt. Series

Jim Stephenson and Al Buggele were double East-West winners in the CRA Bridge Club's recent back-to-back master point tournaments. North-South winners in the Oct. 1 master point play were Ed Lou and Al Hinden. Jo and Tony Miller took North-South honors Sept. 24.

A fall series has started for the club's non-master point events. This series, continuing through the rest of the year, is scored by total fractional master points won with more than one partner. Details are available at the regular Friday night duplicate bridge tourneys in the CRA Clubhouse, Kearny Mesa.

Schneider Wins Master Class

Roland Schneider's sharpshooting gave him a first in the Sept. 12 master class of the .22-cal. Police Course and a near-miss for top spot in the same class in Sept. 26 competition of the CRA Pistol Club.

In Sept. 12 matches he scored 296 out of a possible 300. On Sept. 26 Commissioner Joe Williamson barely nosed him out of first place with 13Xs to Schneider's 9. Both tied at 290.

Jim Halfacre and Roscoe Anderson were close competitors for second place in the Sept. 12 master's, tying with 289 scores. Halfacre's 9Xs bested Anderson's three.

The same day Bill Dittmann took the expert class with a 280. Dale Young was two points behind, 278, for second.

Byron Clapper won the sharpshooter class with a 250. A. E. Kampmann came in second with a 246.

In Sept. 26 shooting, Andy Carlson topped expert class with a 281. Dick Sutton's 265 placed him second.

Ben Hoffmann was top sharpshooter with 242; Kampmann was runner-up with 237.

Schneider shot a 261 for first in .45-cal. Short National competition followed by Halfacre, 258, and Williamson, 241.

Table Tennis Class Will Start Oct. 19

Table tennis instruction will be given in the CRA Clubhouse at 7 p.m. each Tuesday evening for six weeks beginning next Tuesday (Oct. 19) under auspices of the CRA Table Tennis Club.

R. D. Lutz of Dept. 816-2 will instruct. General Dynamics employes and members of their families are invited to sign up for the class, which will be limited to 18. Those interested may phone Lutz at ext. 1591 or R. E. Herold at ext. 3392, both Kearny Mesa.

Room C in the Clubhouse is normally reserved for table tennis from 5:30 to 10 p.m. Monday through Thursday.

34-lb. Albacore Tops Aug. Prize Catches

CRA Fishing Club will meet Oct. 20 in Kearny Mesa CRA Clubhouse for a potluck dinner at 6:30 p.m., followed by a business meeting, Co-Commissioners Bob Menzie and Bob King announced.

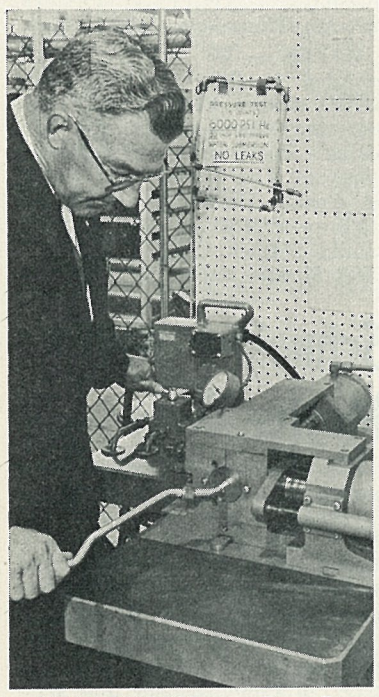
The August prize catches were headed by a whopping 34-lb., 7-oz. albacore boated by Drew Kline. Second place went to C. T. Boyle for a 29-lb., 12-oz. albacore. Carol McDaniel, daughter of Earl McDaniel, was third with an 8-lb., 15-oz. bonita.

RESERVE OFFICER ATTENDS COURSE

Everett P. Watt Jr., a materials schedule analyst in Dept. 140-1 at Kearny Mesa, last week completed a two-week Naval Reserve tour of duty, attending the warehouse operations course at the Naval Supply Center in Oakland. Watt is a lieutenant commander assigned to Naval Reserve Supply Company 11-2.

'Dynaflare' Machine Invented For Precision Tube Flaring

A problem that has plagued industrial firms for more than 35 years has been solved by a new prototype Dynaflare machine designed and built at Convair's Kearny Mesa plant and now be-



NEAR-PERFECT — Dynaflare, new machine created at Convair for forming precision flares used in tube assembly connectors, is demonstrated by Joseph Carlin, inventor.

ing used for precision flaring of metal tube ends for use in SLV-3 and Centaur launch vehicles.

Dynaflare, designed by Joseph E. Carlin, tool development engineer, is expected to find worldwide application throughout industry. Prior to development of Dynaflare, only machines based on pre-World War II cam-action principles were available. Defective flares on tube assemblies for aircraft and space launch vehicles alone are said to have cost millions of dollars.

There have been no reported rejections, leaks or failures of joints to date with flares produced on the prototype Dynaflare machine since it was placed in operation in June.

Dynaflare makes near-perfect flares to meet the most stringent space-age requirements and specifications. Special dies used with Dynaflare also produce 90-degree flanges for a NAVAN-welded joint process under development.

Formed flares used in standard connector assemblies on space launch vehicles must be precise in dimension and finish for reliable function under high pressure, extreme temperature variation, thermal shock and extreme vibration.

Local and Corporate patent counsel offices are working together to license a machine manufacturer to produce industrial Dynaflare models for industry. Inquiries can be directed to Convair, San Diego, or the General Dynamics license and marketing department in New York.

The industrial Dynaflare model has been designated for high-speed production and Carlin said it should be ideal for use in industries such as automotive and refrigeration manufacturing, etc., as well as in the aircraft and aerospace fields. Portable models also will be available.

Flared connector leakage and failures have kept aircraft from flying and have caused delay or failure of all types of ground, air and space vehicles. This problem in recent years became one of national concern to the aerospace industry.

Marshall Space Flight Center at the advent of the Saturn program in 1960 issued a new flare specification, MC-146, to increase reliability of planned Saturn missions. Manufacturers with existing machines and processes were unable to meet these stringent requirements.

Carlin began work on the concepts embodied in Dynaflare in February, 1964, after he had been called in by Merle M. Goodhart, general foreman for metal fabrication departments.

"I went to Merle in April and told him we could build a new-type machine that would solve his flaring problems," Carlin said. Before the end of July, the company had approved funds for the prototype.

Jerry Slovacek of Dept. 403 did illustrative designs, Ray Sodomka and George Vollmer Jr. of Dept. 422 did mechanical design, M. A. Stutz and E. B. Stevens of Dept. 452 did detail manufacturing and assembly, Marvin Ramsey and his personnel in Dept. 460 did precision punch and die fabrication and Robert E. Hibbs of Dept. 460 did special 20-power flare radius inspection charts.

Dynaflare utilizes electro-hydraulic power with a maximum pressure capacity of 50 tons, although only 22 tons of pressure has been used to date on 1¼-inch steel tubing.

The flare is formed by placing the tube against a gauge pin. A hydraulic cylinder then closes the flare dies around the tube. A flaring ram forces a male-type punch into the tube, expanding or flaring out the end to the precise configuration specified. The process is very similar to that used by the U.S. Mint in coining money.

On the prototype machine, the flare forming cycle is eight seconds. The industrial model will have two flare forming mechanisms, each with a three-second cycle.

Carlin has developed other improved metal forming processes that have saved Convair more than a quarter-million dollars during the past four years. These include shotgun forming, 360-degree draw-form bending, hydrodynamic bulge forming and transition-wave die forming.



INTERNS — Members of Corporate Internship Program gather with Algie A. Hendrix, Corporate vice president-industrial relations, at New York for farewell to first of group to leave for division assignment. From left: David Murray, Jeff Breiseth, Art Dow (now at Pomona), Hendrix, Mike Watters, Karl Kovac, Ray Goodson.

First 'Corporate Intern' Assigned To Division After Year in NYC

Of General Dynamics' many personnel development programs, one that has not hitherto been widely publicized paid its first "dividend" last month.

Arthur I. Dow III, first member of GD's Corporate Internship Program, finished his year's tour of duty at New York Headquarters and reported for assignment at Pomona division.



FIRST ASSIGNED — Arthur I. Dow III, right, is greeted upon arrival at Pomona by A. H. Dunn, manager of operations and manufacturing control. Dow recently completed a year in the Management Intern Program at Corporate Headquarters in New York. He has been assigned as manufacturing analyst (Depts. 21 and 22).

For many years Dynamics divisions have had active programs of rotating promising young men, as well as mature executives, to different departments to broaden their experience and skills. However, more than a year ago a pilot program was put into operation involving recruitment of a number of recent college graduates for assignment to Corporate Headquarters for a year before making them available to divisions.

The program is under the direction of James L. Budros, Corporate director of compensation and personnel development.

Dow was the first to enter the program, joining Dynamics in August, 1964. He came with BS and MBA degrees from University of Southern California, and service of 21 months in the Army Adjutant General's Office in Alaska. Since then he has been rotated among different Corporate departments. In each he had intensive indoctrination and specific work assignments. When his year was up his services were requested by Pomona division (among others) where he is in operations and manufacturing control as a manufacturing analyst.

Michael Watters was the second intern recruited. He has a BBA in accounting from Texas Christian University. Others who subsequently joined the program at suitable intervals were: Jeffrey Breiseth, BA, University of California, Los Angeles, MBA Wharton School of Finance, University of Pennsylvania; Karl B. Kovac, ex-Navy airman and University of Texas graduate with a BA in industrial management; Raymond L. Goodson, BS in statistics, Brigham Young University, MBA in finance, Stanford; David L. Murray, BA in economics, Yale University, MBA, Columbia University. (Murray, incidentally, is a Naval Reserve lieutenant and served three years active duty. He was aboard the destroyer Decatur off Bermuda when the ship recovered the first Atlas-boosted Mercury capsule to orbit the earth.)

All of the interns have had considerable off-campus experience, though Goodson probably leads in the area of travel. He interrupted his college career to spend three years as a missionary in Hong Kong.

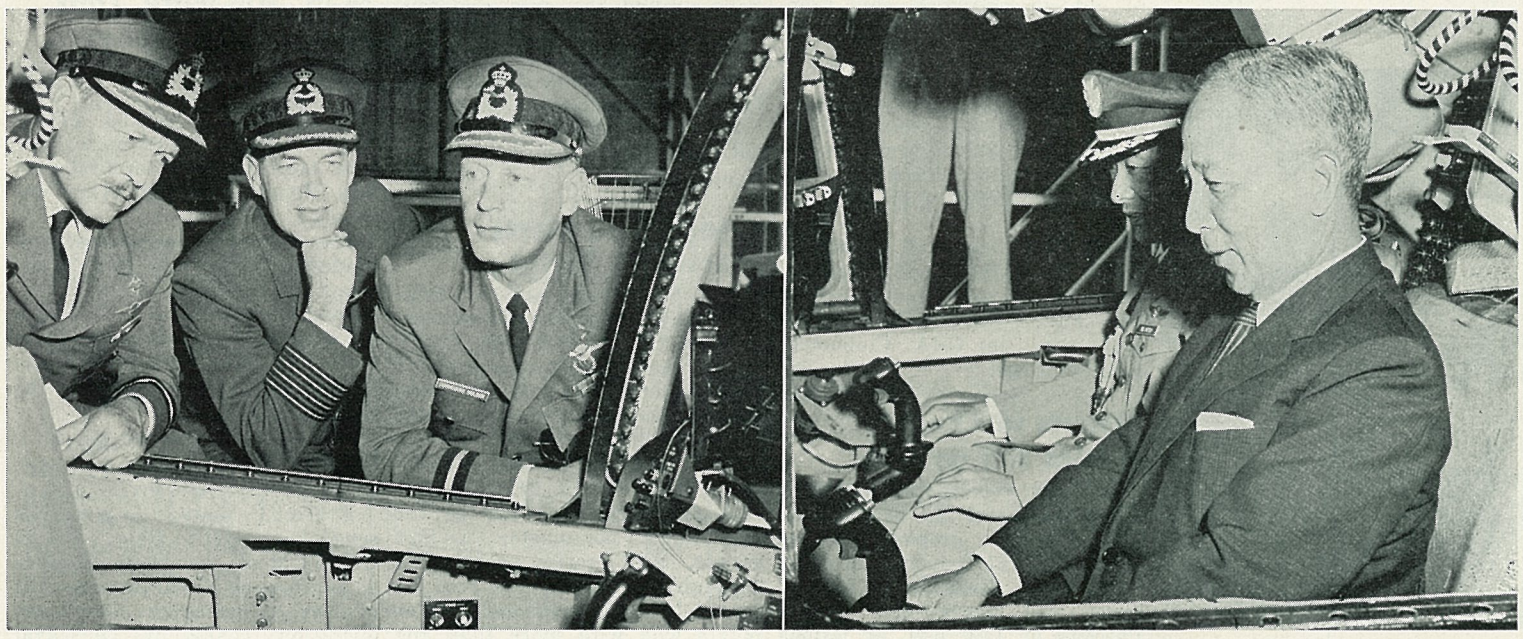
Four of the six interns are married. The latest to take vows was Dow who found romance at New York Headquarters. He was married to Carol Pislor, secretary, July 16 in New York City.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

THOMAS H. BRANNAGAN JR. (1961) from Convair to nuclear project engineer, Electric Boat; **ADOLF P. CASTILLO** (1952) from Convair to Electronics (San Diego); **IRVING S. BUCKLER** (1951) from Pomona to Canadair; **JAMES G. TOTH** (1964) from Fort Worth to design engineer, Electric Boat; **LEONARD P. PAWLAK** (1964) from Convair to Electronics (Quincy); **FRED J. EVANOSKY** from Electro Dynamic to design engineer, Electric Boat.



ON BOARD — At right, His Excellency Ryuji Takeuchi, Ambassador from Japan, and Col. Shigeru Matsuo, Air Defense Attache for Japanese Embassy, inspect F-111 cockpit during recent visit to Edwards AFB. At left, Representatives of Royal Netherlands Air Force get close look at F-111 at Edwards. From left: Commodore Gijbertus W. deZwaan, commander of Royal Netherlands Air Defense Command; and Col. Joannes M. Knoop and Commodore Johan N. Mulder, Royal Netherlands AF Training Command.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 22 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, October 27, 1965



MOVE-OUT — Little Joe II launch vehicle is lifted from launcher at Convair plant in first step of loading for departure by truck from San Diego Oct. 11 for White Sands Missile Range, N.M. There it will be readied for launch scheduled in December.

Little Joe II Off to New Mexico For Another Apollo Launch Test

A Convair-built Little Joe II launch vehicle left the San Diego plant Oct. 11 for White Sands Missile Range, N. M., to be readied for the next in a series of tests of the Apollo spacecraft launch escape system.

The fifth launch, using Little Joe II as the boost vehicle, is scheduled at White Sands in December.

Convair has built eight of the low-cost, solid-fueled vehicles for National Aeronautics and Space Administration's Manned Spacecraft Center, Houston, Texas. Three of the vehicles are expected to be declared "surplus" as far as additional Apollo spacecraft test requirements are concerned. They can be made available for other suborbital payload test requirements.

J. B. Hurt directs Little Joe II work at Convair as program manager.

Confidence Expressed In Charger Program

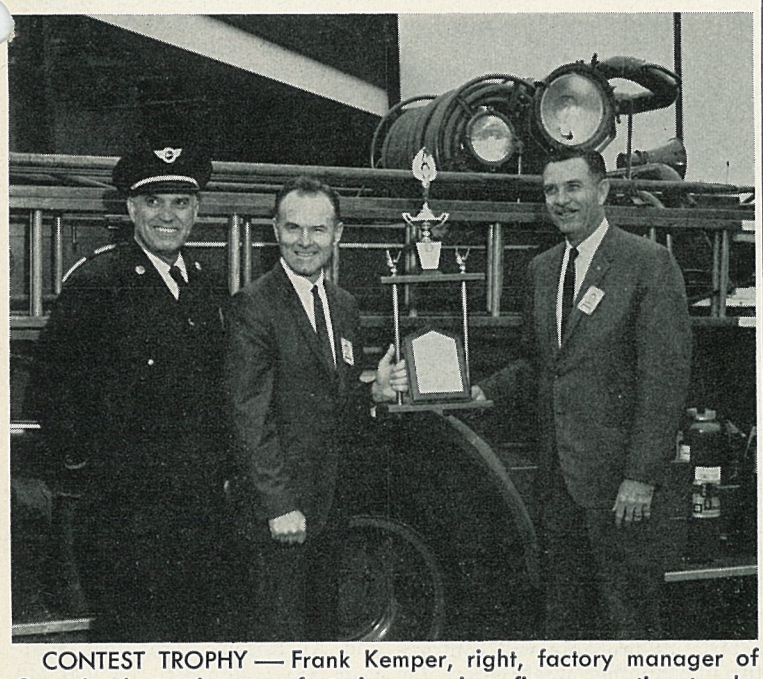
Convair will continue to pursue the Charger program with complete confidence in the plane's superiority and design, according to Jack L. Bowers, Convair general manager.

Commenting on the crash last week in which the airplane was lost, Bowers said, "Our immediate and overriding concern was the safety of the pilot. We are extremely thankful that he sustained only minor injuries. This was largely due to the provisions made for a superior ejection seat in the Charger."

The aircraft was on its 196th flight, and was coming in for a landing. The pilot was Lt. Cdr. D. L. Hardin.

Commenting on the Charger's future, Bowers said: "We are vigorously and aggressively pursuing the Charger program and are in the process of making proposals for Charger sales. There will be every opportunity to sup-

(Continued on Page 2)



CONTEST TROPHY — Frank Kemper, right, factory manager of Convair electronics manufacturing, receives fire prevention trophy for Dept. 780 from Fire Chief A. C. Anderson, left, and S. R. Sharp, manager of industrial security. Employes in Dept. 780 scored highest in fire safety contest during Fire Prevention Week.

Five-Year Agreement Assures Labor Peace

A new collective bargaining agreement of five years duration, unprecedented in the aerospace industry, was signed Oct. 11 between Convair and Pomona divisions of General Dynamics and International Association of Machinists, and local lodges.

"The agreement reached Oct. 11 is a sound economic package responsive to the needs of the employes, the customer, the Company and the Union," Algie A. Hendrix, General Dynamics vice president-industrial relations, commented.

"It is a major milestone in the collective bargaining relationships between General Dynamics and the International Association of Machinists, covering as it does an unprecedented five years. This will assure long term labor stability as a solid base for acquiring new business which, in turn, should spell additional jobs in the future."

The contract calls for a basic wage package of 40 cents an hour over the five year period, plus substantial improvements in employe benefits.

Agreement climaxed negotiations which have been in progress for several months. Significantly, it was accomplished without the threat of work stoppage or lockout and without the need for government assistance. Further, because agreement was reached before the expiration of prior contracts, the retro-pay issue was not involved.

Spokesman for the Convair division was M. V. Wisdom. Convair director of industrial relations, and spokesman for Pomona division was T. R. Worthy, Pomona director of industrial relations. Coordinating negotiations were Carl Oles, Corporate director of labor relations, and Roger Brown of Corporate Headquarters.

Taking the lead for IAM were Freeman C. Brown, Joseph Miraglia and Charles H. Jones, International IAM representatives; A. J. Baffone, president and local business representative for IAM District 50; and Glen Woolsey, business representative for District 120.

Covered in the agreement are approximately 6,500 employes at Convair and 1,700 at Pomona division, represented by IAM.

(Continued on Page 3)



TEAM — Negotiators who hammered out new Convair-IAM five-year contract that is a "first" in aerospace industry are, from left: E. D. Bryant, M. V. Wisdom, R. E. King, H. W. Carrell and W. L. Van Horn of Convair and L. W. Kirkendall, F. C. Brown, K. E. Secor, Robert Ihrig, R. A. Schultz, R. G. Martin and A. J. Baffone of IAM.

Electronics Dept. Scores Highest in Annual Fire Quiz

Electronics manufacturing (Dept. 780) at Convair's Kearny Mesa plant won the division's fire prevention trophy by making the highest score of any department in the annual fire safety contest held the first of this month.

Frank Kemper's nearly 400 people scored 92 per cent in the fire safety examination during National Fire Prevention Week.

They took the trophy away from Dept. 001 at Lindbergh Field, last year's winner, and will keep it until next year's contest. This is the fourth year for the Convair fire safety competition, but the first time Kearny Mesa departments have participated.

"The fire safety quiz, which covered every department in Convair, turned up some valuable information," said Fire Chief A. C.

(Continued on Page 2)

Trip to Vandenberg Awaits ES Winner

Suggest your way to a trip to Vandenberg AFB to watch an Atlas firing? It's possible!

Four Convair employes from the San Diego area submitting top quality Employe Suggestions by Nov. 19 will make a trip to Vandenberg in the company plane on the day of a launch and, after touring the blockhouse, will watch the lift-off from the telemetry trailer.

Suggestion forms and pre-addressed envelopes are available in suggestion boxes throughout the plant. Any ideas?



SIGNING — Affixing signatures to Oct. 11 agreement are, from left: A. J. Baffone of IAM, M. V. Wisdom of Convair and F. C. Brown of IAM.

Thirty Teams in VE Workshop Tackle Production Cost Cuts

Thirty Convair "management men" have had their sleeves rolled up and their minds at work during the past two weeks investigating how seven different production items are produced and used, and trying to determine how the same or a better result might be obtained at less cost.

The men have been enrolled in the 45th Value Engineering Workshop held at Convair during the past five years.

Parts being analyzed were almost as varied as the backgrounds of the men themselves and included a jettison track assembly, an auto pilot elapsed-time meter, a Centaur to Surveyor electrical disconnect assembly, a propellant utilization system computer comparator and computer boards, an F-106 external fuel tank strongback assembly and a vehicle-borne one-way solonoid venting valve.

Everett Lindem of educational services Dept. 130-3, workshop coordinator, said the men were divided into seven teams with each having one production item for study.

"They spent about one-fourth

(Continued on Page 2)

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Oct. 16 and Oct. 30.

Thirty-year: Dept. 195-7, W. W. Whittier; Dept. 509-1, H. K. Parsons; Dept. 672-0, L. W. Standley.

Twenty-five-year: Dept. 001-0, W. W. McDaniel; Dept. 002-0, E. D. Fountain; Dept. 015-0, P. M. Castillo; Dept. 031-0, H. D. Heyenga, W. E. Ritter; Dept. 053-0, C. L. Jackson; Dept. 110, W. F. Brown, C. L. Meador; Dept. 130-3, H. M. Rubin; Dept. 401, R. W. Fitzgerald, E. J. Thomas; Dept. 420-3, H. J. Sumner; Dept. 452-0, J. H. Weiland Jr.

Dept. 510, R. J. Chillo, G. E. Trimlett; Dept. 511-2, P. F. White; Dept. 531-2, J. T. Rudis; Dept. 543-5, F. A. Pokorny; Dept. 573-1, S. T. Wood; Dept. 587, D. E. Diller, R. M. Dunbar; Dept. 655-0, D. G. Wilson; Dept. 761-0, D. J. LaBorde; Dept. 830-0, Frank Hockenberger; Dept. 835-4, G. A. Clauder; Dept. 971-5, E. L. McCabe; Dept. 972-0, R. L. Robinson; Dept. 976-3, A. P. Salazar.

Twenty-year: Dept. 002-0, Lawrence Neal; Dept. 041-0, H. A. Ball Jr., J. T. Hobbs Jr.; Dept. 149-2, L. F. McCoy; Dept. 491-0, C. P. Rolla; Dept. 835-6, M. W. Rhea.

Fifteen-year: Dept. 001-0, V. E. Poquette; Dept. 002-0, E. G. Dyson; Dept. 110-0, C. W. Blakey Jr.; Dept. 113-0, T. O. McMaster; Dept. 124-0, W. F. Carter; Dept. 143-2, C. L. Marks; Dept. 149, J. R. Dressler, W. L. Ryan; Dept. 170-9, Beatrice S. Levenson; Dept. 223-0, Frances M. Clausson, Lola Woolery; Dept. 251-1, W. F. Wilkinson; Dept. 420, W. P. Engelfried Jr., A. P. Meredith; Dept. 451-0, D. W. Powell.

Dept. 505-2, H. D. Booth; Dept. 509-1, J. J. Davis; Dept. 511-4, J. P. Nelson; Dept. 521-6, Opal B. Brower; Dept. 522, J. C. McBratney, Eula C. Stuart; Dept. 524-0, Deloris S. Meredith; Dept. 572-1, L. D. Girton; Dept. 574-3, M. I. Edelstein; Dept. 575-3, R. M. Bloom; Dept. 578-2, W. A. Smith; Dept. 581-0, J. F. Brady Jr.

Dept. 644-4, R. P. Botsford; Dept. 671-0, S. B. Chamberlain; Dept. 685-0, M. H. Scott Jr.; Dept. 733-0, E. D. Bryans; Dept. 759-0, E. A. Jipp, L. R. Tipton; Dept. 761-0, W. E. Pope; Dept. 763-0, E. L. Carnes; Dept. 780-2, L. M. Williams; Dept. 818-2, Beatrice G. Phillips; Dept. 819-0, F. D. Meadows; Dept. 830-0, Arlene D. Young; Dept. 838-3, Blanche C. Seiler, June M. Thomas; Dept. 838-3, Allethia C. Larsen; Dept. 953-2, C. R. Bowman; Dept. 964-4, Betty F. Klick; Dept. 970-1, W. R. Forsyth; Dept. 976-0, P. A. Scott.

Ten-year: Dept. 015-0, F. A. Lublow; Dept. 031-0, V. E. Baines; Dept. 132-2, J. G. Card; Dept. 142-2, O. W. Williams; Dept. 143, A. E. Maier, Gertrude Neuhart; Dept. 146, E. J. Taylor, T. E. B. Vance; Dept. 149-1, Aurelio Giuntoli; Dept. 250, E. F. Reynolds, J. A. Salyer; Dept. 511-1, S. D. Zulio; Dept. 523-4, A. R. Fortier, J. W. Snyder Jr.; Dept. 551-2, D. C. Nehrer; Dept. 562-0, Ralphine H. Bryant; Dept. 574-1, W. D. Thompson; Dept. 576, W. C. Barton, J. C. Erickson, Alexander Gibson, Vew Hicks, D. M. Jardee, D. C. Worsnup.

Dept. 653-0, J. W. Schlentz; Dept. 657-0, H. D. Jeter; Dept. 731-0, Fernando Campos; Dept. 733-0, Cora G. Darnell; Dept. 759-0, E. C. Wittrock; Dept. 818, G. L. Cooper, J. F. Meeker Jr.; Dept. 819-0, Jeannette L. Ellis, John Van Dyk; Dept. 832-1, Glenora B. Richardson; Dept. 833-2, R. F. Wood; Dept. 835-2, J. D. Bennett; Dept. 845-0, R. N. Babcock; Dept. 847-1, D. O. Barnett; Dept. 954-2, A. D. Glivar; Dept. 956-0, R. P. Swain; Dept. 958-7, Pattie G. Braswell; Dept. 961-8, G. W. Norris Jr.; Dept. 966-8, P. S. Vincelett; Dept. 967-4, R. L. Hineline; Dept. 978-3, J. H. Miller.

ELECTRONICS

Fifteen-year: Dept. 1250, M. L. Tucker; Dept. 4072, J. O. Tollett; Dept. 6984, J. M. Lasley; Dept. 7549, H. L. Copeland.

Ten-year: Dept. 6859, H A. Vasques; Dept. 7549, D. R. Kinnaird.

STROMBERG-CARLSON

Twenty-five-year: Dept. 8601, T. E. Morris.

Twenty-year: Dept. 8250, Jean G. Bentson.

Fifteen-year: Dept. 8732, K. R. Keef.

Ten-year: Dept. 8630, G. A. Stickney.

Invention Disclosures

CONVAIR

CARLIN — Joseph E., Dept. 491-0. Controlled Metal Flow Bulge Forming.

FRANKOWSKI—J., Dept. 572-1. Structural Bonding System Based on Polyethylene Terephthalate (Mylar) for Use at Elevated & Cryogenic Temperatures (–423 degrees F. to 400 degrees F.)

GREEN—Eugene D., Dept. 492-0. Solid State Welding System.

HAMPTON—Harold L., Dept. 780-2; LEONARD MARKS, Dept. 551-4; NORMAN TAROWSKY, Dept. 551-4. Flat-Pak Interconnection Pattern.

MERZ—Paul L., Dept. 572-1. Longitudinal Contractile Bipolymer Cryogenic Seals.

Personals

CONVAIR

I wish to thank all the many Convair friends of Harold Balke for the beautiful flowers, contributions, and expressions of sympathy received at his death. They did so much to ease our sorrow.

Virginia Balke.

Births

ELECTRONICS

TAYLOR—Daughter, Michelle Marie, 8 lbs., 8 oz., born Oct. 13 to Mr. and Mrs. Larry S. Taylor, Dept. 4038.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial office: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Awards

CONVAIR

Employe Suggestion awards approved for the period ending Oct. 13.

Dept. 002-0, R. A. Davis; Dept. 015, George Archbold, David Galloway; Dept. 016-0, W. J. Gibson (first installment), B. M. Swanson, J. Velazquez; Dept. 019, Virgil Breit and Frank Malcangio (joint award), W. Carson, H. F. Graham; Dept. 024-0, James Kany (first installment), E. E. Yturralde; Dept. 041-0, J. E. Ellis, H. C. Rexroad (two awards); Dept. 113-0, R. D. Qua; Dept. 123-0, D. R. Pierce.

Dept. 141, C. Mansfield and J. Volkev Jr. (joint award); Dept. 142, L. E. Johnson (final installment), R. J. Sanchez, J. Scott; Dept. 143, J. Adams, H. Jackson; Dept. 143-2, A. R. Townsend (first installment); Dept. 145-1, R. R. Serrano; Dept. 250, B. Green (first installment); Dept. 250-1, E. B. Chenault (final installment), M. E. Nicolet; Dept. 251, W. Gille; Dept. 251-1, J. E. Epler; Dept. 401-4, R. Cowie; Dept. 420, Ronald Vincellette; Dept. 420-1, I. G. Rooder (final installment); Dept. 454, A. C. Taranto; Dept. 543-2, C. W. Nordby and W. H. Pfender (Dept. 574-1) (joint award, final installment); Dept. 571, J. McDougal (first installment).

Dept. 731-0, J. L. Obermuller; Dept. 733, C. W. Maxfield (final installment), J. Morales, R. Reeves; Dept. 758, Andrew Corrao; Dept. 761, T. Mlinac and T. Roberts (joint award); Dept. 763, D. Dunn and G. Elwell (joint award); Dept. 818-2, E. C. Steeger; Dept. 832, D. J. Croan, H. Fuller; Dept. 953-2, L. J. Gaber and D. M. Janssen (joint award, final installment); Dept. 958, Eric Hubach; Dept. 962-2, G. W. Schmucker; Dept. 972-0, R. W. Dickenson, M. C. Sullens; Dept. 976-3, M. Richardson; Dept 979, F. Hagerman.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff. Lindbergh Field, ext. 491. One hour, Tuesdays, Nov. 2 and Nov. 23, Dept. 300; 7 a.m. and 3:30 p.m. Bldg. 14 auditorium. Lindbergh Field personnel, one hour, Tuesdays, Nov. 16 and Nov. 30; 8 a.m. and 4:30 p.m. Bldg. 14 auditorium, Kearny Mesa, ext. 1931. Two hours, Monday, Nov. 1, 8-10 a.m., Room 7, Bldg. 17.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP —Everett Lindem, ext. 1931, Kearny Mesa. Forty hours, Nov. 8-19, 8 a.m. to noon. CRA building. Enrollment closed.

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa. Dept. 780-4. Oct. 26, 27, 28; Dept. 780 conference room. Enrollment closed.

SUPERVISION SEMINAR NPC 200-4 —Harry Miller, ext. 1931, Kearny Mesa. Ten hours, Oct. 25-29; 11:45 a.m.-1:45 p.m. Room 9, Bldg. 17, Kearny Mesa. Enrollment closed

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks, Kearny Mesa coordinator, Harry Miller, ext. 1931; Lindbergh Field coordinator, Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training) — Eight hours per day, 26 weeks, Bldg. 3, Lindbergh Field coordinator, Wayne Turner, ext. 491.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly 7 a.m.-3:45 p.m.; Room 10, Bldg. 17, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

BLUEPRINT READING — Bill Sherman, ext. 491, Lindbergh Field. Oct. 25 to Jan. 26, Monday & Wednesday, 3:45-6:15 p.m., Bldg. 14, Room 5.

SHOP MATH—Ed Gurling, ext. 491, Lindbergh Field. Oct. 19 to Jan. 27, Tuesday & Thursday, 3:45-6:15 p.m., Bldg. 14, Room 5.

CITY COLLEGE SPRING COURSES —Send AVO to Dick Forrest, Zone 130-30, Kearny Mesa. Give name, department, extension, courses interested in. Classes will be held one night a week, usually 5-8 p.m.

Retirements

CONVAIR

ANDERSON—George O., Dept. 522-8. Seniority date Feb. 26, 1957, retired Sept. 14.

BOWMAN—William E., Dept. 130-0. Seniority date Aug. 14, 1950, retired Sept. 24.

BRICKNELL—Charles A., Dept. 400-7. Seniority date Jan. 10, 1940, retired Sept. 30.

BROWN — Orshion T., Dept. 101-7. Seniority date Jan. 21, 1942, retired Sept. 30.

BUERKLE—Andrew, Dept. 143-2. Seniority date Sept. 13, 1951, retired Sept. 30.

HILL—J. B., Dept. 135-5. Seniority date Sept. 4, 1956, retired March 12.

JOHNSON—Robert, Dept. 025-0. Seniority date March 8, 1951, retired Aug. 6.

KENNEDY—Donald W., Dept. 016-0. Seniority date Feb. 8, 1940, retired Sept. 30.

LYNCH—George W., Dept. 250. Seniority date Aug. 30, 1950, retired Sept 27.

MOHR—Herbert G., Dept. 312-0. Seniority date March 10, 1960, retired Sept. 11.

PHILLIPS—Henrietta C., Dept. 227-0. Seniority date April 5, 1954, retired Oct. 6.

POPE—Earl H., Dept. 388-2. Seniority date Jan. 14, 1957, retired Sept. 20.

SORENSEN—Martin C., Dept. 761-0. Seniority date Nov. 1, 1955, retired Oct. 7.

STIDHAM—William S., Dept. 576-3. Seniority date July 5, 1960, retired July 17.

WALSH—Francis S., Dept. 149-2. Seniority date Oct. 19, 1950, retired Sept. 30.

Lost & Found

LOST—Yellow gold wristwatch without wrist band Sept. 24 in vicinity of Bldg. 2 and Pacific Hwy. parking lot. H. G. Blonke, ext. 1144, Lindbergh Field.

Deaths

CONVAIR

PERKINS—Roy A., Dept. 526-2. Died suddenly Oct. 12. Survived by his wife, Carol; son, John; and four brothers.

Electronics Dept. Scores Highest in Annual Fire Quiz

(Continued from Page 1)

Anderson, who conducted the contest with Fire Chief Del Dimmitt of Lindbergh Field plant. "We know now just which areas need more fire safety education."

Scores in this year's contest ranged from Dept. 780's high of 92 per cent to a low of 43.8 per cent.

Poorest scores came from departments that have the largest number of new employes.

Runner-up department was metalbond, plastics, and trim (Dept. 019) at Lindbergh Field under E. D. Robinson, foreman and Lee Stamper, assistant foreman. Score was 91.4 per cent.

Two departments tied at 86 per cent for third place. They were Steve Barinka's Centaur final assembly (Dept. 972) at Kearny Mesa and plant engineering under W. E. Stanley.

Fire inspectors Hugh Rae, H. S. Preston, and E. A. Hazeltine circulated throughout departments at Kearny Mesa, Lindbergh Field, AF Plant 19, Rose Canyon, Harbor Drive Test Site and Sycamore and Point Loma Test Sites, picking their subjects at random.

They quizzed an average of five per cent of all the some 13,000 Convair employes at all sites.

"We found a surprising number of people who do not know what to tell the fire department when they are trying to report a fire," said Chief Anderson.

He listed the following points to remember:

First, learn and remember the phone numbers — extension 1510 at Kearny Mesa, and ext. 510 at Lindbergh Field plant.

Next, speak clearly and concisely. Don't get incoherent in the excitement.

Third, give exact location and kind of fire. Give the plant number, building, floor and column number. Then go to the nearest entrance to direct firemen to the fire.

Stan Sharp, manager of industrial security, commended the fire department with, "This fire safety contest has impressed upon employes the fact that they can play a significant role in fire prevention and fire safety. We must never forget that fire prevention is for each of us a year-long job."



COST CONSCIOUS — Robert Weber, standing, leads brainstorming session on how production cost might be cut for propellant utilization system computer boards. Others, left to right, are J. M. Rose, N. C. LaRosa, J. R. Mercier and R. F. Maxa.

Thirty Teams in VE Workshop Tackle Production Cost Cuts

(Continued from Page 1)

of their time learning proven value control techniques and in theoretical discussion and the other three-fourths in real work and study on their assigned project," he said.

One of the guidelines provided for each group for use in its product analysis was a "baker's dozen tests for value" that pose the following questions:

Can we do without it?

Do you think it costs more than it's worth?

Is there anything better to do the job?

Does it do more than is required? Can some of its features be eliminated without impairing function?

Is its cost out of proportion to its usefulness?

Does it cost more than the total of reasonable labor, overhead, material and profit?

Does the value of sub-components appear inconsistent?

Can it be integrated? Can its functions be combined?

Are specifications out of line with requirements? Are tests out of line with requirements? Is inspection out of line with requirements?

Can a standard product be found which will be usable?

Is anyone buying it for less?

Can it be made by a lower cost method? Considering the quantities used, could a less costly tooling method be used?

If it were your money, would you refuse to buy it because it cost too much?

E. E. Morey of Dept. 562-1, R. W. Weber of Dept. 551-4 and J. E. Carlin of Dept. 491-0 served as project leaders for the groups.

The teams and their projects were:

Team No. 1—Jettison track assembly (submitted by operations). J. H. Mang, Dept. 491-0; L. R. Willett, Dept. 656-0; J. A. Baird, Dept. 562-2, and R. M. Henkel, Dept. 542-0.

Team No. 2—Autopilot elapsed time meter (submitted by engineering). R. F. Myers, Dept. 543-3; R. C. Hager, Dept. 523-7, A. W. Pisarchik, Dept. 493-0, and R. B. Peterson, Dept. 149-1.

Team No. 3—Electrical disconnect assembly (submitted by operations). R. A. Given, Dept. 493-0; J. H. Havlin, Dept. 845-2; R. K. Jepperson, Dept. 544-5 and Raul Delgado, Dept. 146-1.

Team No. 5—Propellant utilization system computer comparator (submitted by operations). J. J. Harris, Dept. 522-6; E. A. Harrs, Dept. 578-1; L. A. McCurry, Dept. 420-8 and George Swanson, AFPRO.

Team No. 6 — Propellant utilization system computer boards (submitted by operations). F. M. French, Dept. 763-0; N. C. LaRosa, Dept. 578-1; R. F. Maxa, Dept. 659-0; J. M. Rose, Dept. 403-2, and J. R. Mercier, Dept. 522-8.

Team No. 7—F-106 external fuel tank strongback assembly (submitted by engineering). L. W. Patterson, Dept. 403-1; P. W. Rogers, Dept. 966-4; R. A. Silverman, Dept. 662-0, and W. W. Berger, Dept. 143-5.

Team No. 8—Vehicle borne one-way solonoid venting valve (submitted by engineering). T. A. Billings, Dept. 521-0; Joe Butera, Dept. 002-0; J. W. Routson, Dept. 578-1; C. S. Rhees, Dept. 664-0, and H. T. Armitage, Dept. 197-0.

Ground School Courses On-Site Held For Convair 600 Customers

Over 40 Trans-Texas Airways, Inc., ground crew personnel had completed maintenance training on the Convair 600 by the first of this month in Convair-conducted courses held concurrently with modification of Trans-Texas Convair-Liners.

Trans-Texas has ordered 25 modification kits from Convair for conversion of the airline's Convair-Liners to the turboprop 600/240 version. First Trans-Texas Convair 600, powered with Rolls-Royce Dart engines, is scheduled for completion next month.

Wayne Eddington, Convair service engineer, has been based at Trans-Texas headquarters in Houston, Texas, since August to direct the training. Three classes for 44 maintenance, overhaul, and quality control personnel were completed Oct. 1.

First of a series of pilot ground training courses began this week for Trans-Texas and Federal Aviation pilots and flight instructors. The airline's own instructors will continue the training after completion of the first three 40-hour classes.

Similar ground school courses have been held on-site for Central Airline crews at Fort Worth and are now under way at Caribair's base at San Juan, Puerto Rico, and Hawaiian Airlines' headquarters at Honolulu.

Bob Detwiler is in charge of the instruction for Caribair and Don Maxion is instructing Hawaiian Airlines' crews.



ADMIRAL TOURS CONVAIR PLANT

Adm. Henry S. Monroe, commander of the U. S. Pacific Fleet Amphibious Training Command, and 10 of his staff officers visiting Convair's Kearny Mesa plant Oct. 11 for a review of products and research programs.

Confidence Shown In Charger Design

(Continued from Page 1)

port a thorough evaluation of the Charger's future, because of the wealth of performance data obtained during nearly 200 hours of flight test. We are going to be able to place in the hands of our military customers sufficient evidence that we have made a significant contribution to their quest for an aircraft with the Charger's capability."

Charger made its first flight Nov. 25, 1964 and since then spent a total of 193 hours in the air, most of the time carrying extensive instrumentation for gathering performance data. During part of this program the airplane was flown by a NASA pilot, investigating short takeoff and landing characteristics.

Charger is a company-funded project in an effort to offer the military an airplane capable of meeting the unique requirements of "limited war," operating from rough fields in forward areas and available for counter-insurgency missions and close support.

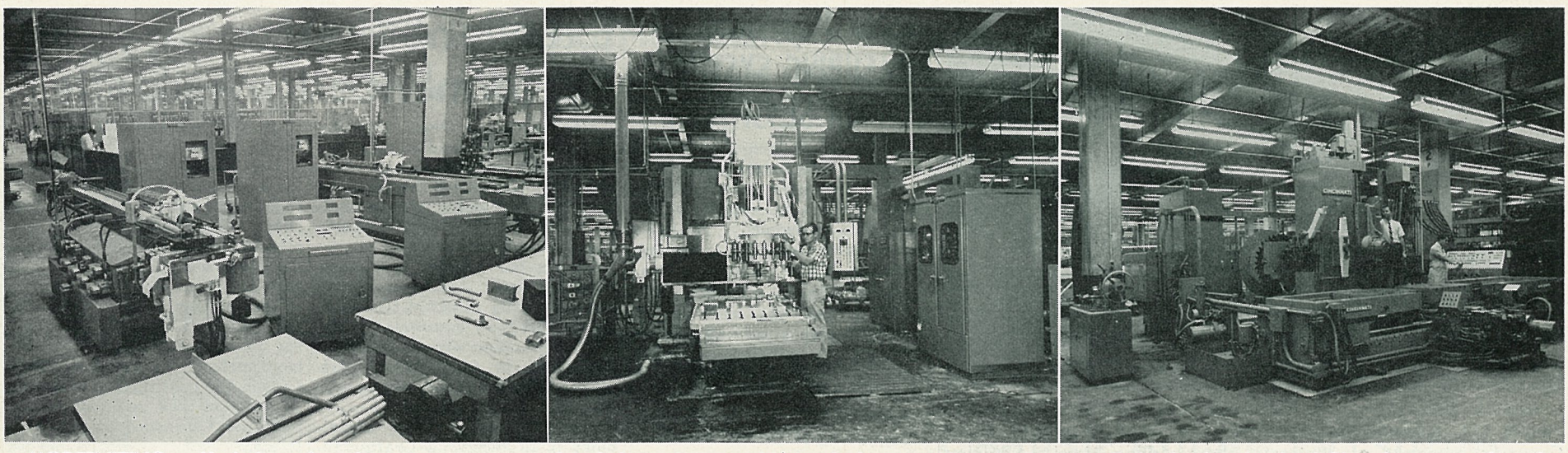
Prototype of 600/440 Transport Undergoing Certification Flights

Convair's prototype 600/440 transport is now in its flight testing program for Federal Aviation Agency certification. First FAA flight tests were held from Lindbergh Field last Tuesday (Oct. 19).

Tests to determine flight characteristics probably will continue through another week before the turbojet Convair 600 will be flown to Edwards AFB for further tests.

FAA certification testing on the first Convair 600, the 240 prototype, are still under way at Edwards. This version of the new turbojet airliner has already received FAA provisional certification.

Convair pilot, Lindy LeVine, and Al Kosen, flight test engineer, are assigned to the 600/440 while Pilot Don Germeraad and Gene Whigham, flight test engineer, are Convair crewmen on the 600/240.



MODERNIZING — Updating of equipment, processes and techniques is part of Air Force Modernization Program being carried out at Fort Worth division. In center is numerically controlled drilling, milling and boring machine, with automatic tool changer. Numerically controlled tube bender (at left) reduces manufacturing time substantially. And at right is new numerically controlled milling machine, also with automatic tool changer.

Fort Worth Division Equipment Updated in Air Force Program

If you're building the nation's most versatile and up-to-date airplane — the F-111 — you use the most modern equipment, processes and techniques known to the aerospace industry.

Fort Worth division and the Air Force are putting this concept into practice under the Air Force's Modernization Program.

The idea is simply this: existing equipment can do the job, but more modern equipment will result in a better product at lower cost.

What effect will the Modernization Program have on F-111 production?

"Paramountly, it'll improve quality and reduce cost," says Jim Levering, chief of facilities acquisition. "There'll be other benefits, too, such as reduced tooling, reduced lead time, and greater reliability."

Updating of equipment has been a continuous process at Fort Worth. Numerically controlled milling machines, for example, were installed during 1958 to make B-58 bulkheads automatically. Result: parts were machined 17 times faster, with a 25 per cent reduction in weight.

But updated machines will perform more intricate F-111 tasks with even more expertness and speed. For example, a complete milling, drilling, and boring job —including automatic tool-changing—can be programmed into the new ultra-sophisticated numerically controlled machines recently installed.

"Other examples," Levering adds, "are the new numerically controlled tube benders which can bend tubes to virtually any desired shape in a fraction of the time required by the old method."

Briefly, the proposed changes will include:

Engineering and quality control equipment; machine shop equipment—mills, drilling machines, lathes, and boring machines; other fabrication equipment—forming machinery, miscellaneous welding, tubing, and bonding equipment; processing—etching and plating, plus heat-treating equipment.

In the latter area, studies show that some 12,680 parts on each airplane will undergo cleaning, etching, plating, surfacing, finishing, and other processing. Since an average of three processing operations will be required on each part, an estimated total of 38,000 processing operations will be required per airplane. Using modern equipment will reduce manufacturing costs.

The updating, of course, is leading to beneficial results in other programs.

One original large booster design, for example, contained a composite of riveted parts weighing 2,789 pounds. Fort Worth redesigned the booster to reduce weight, employing a modern design of bonded structure, large machined parts, and automated riveting. Weight was reduced by 1,704 lbs.—a 38 per cent reduction!

"Fort Worth division supports the Air Force Modernization Program and believes it to be the most important factor in keeping the aerospace industry capable of producing modern weapon systems.

"We believe it is a major step toward accomplishing Air Force and industry goals of effectively reducing costs, improving quality and increasing reliability," Levering said.

Return to Standard Time To Be Oct. 31

General Dynamics people working in Daylight Saving states will be back on standard time this coming Sunday, Oct. 31.

Clocks will be turned back an hour to regain the time lost this spring when Daylight Saving Time went into effect.

Standard time is resumed as of 2 a.m. on the last Sunday in October.

X-Ray Capability Added to Machine To Test Quality of Own Welding

An electron beam welding machine at Convair's Kearny Mesa plant is now being used to make photographic X-rays to prove the quality of its own welding work.

William Roden, an engineer in manufacturing development, Dept. 491, has devised a system in which the welder's high velocity electron beam strikes a small tungsten target. The tungsten gives off X-rays that go through the pieces of metal at the point where they have been welded and through a piece of Polaroid film.

Defects or changes in thickness or detail in the weld is reflected in the photograph, which is developed in 10 seconds, and corrective action can then be taken.

"A four per cent variation in thickness of the weld can be detected easily," Roden said. "That is sensitive enough to disclose most weld defects. The positive prints, when viewed with an X-ray illuminator, show excellent clarity and definition."

After Roden's X-ray system has been used in tests on sample welds to determine how the electron beam welder should be used to make a specific type of weld, the welding of similar parts can be done, if desired, on a production line basis. The welding machine's regular controls for determining current, voltage, time and focus are used to produce proper exposure on the film.

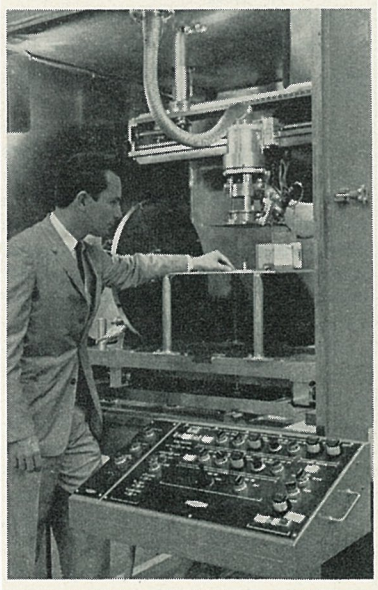
The electron beam welder fuses or "melts together" metals by bombarding them with a stream of electrons traveling at speeds up to 70,000 miles per second that give off energy as heat. The welding is done in a vacuum atmosphere inside the welding chamber with the vacuum pumping system removing gases from the molten metal during welding.

A maximum of 60,000 volts of electrical current is used in the machine and the beam of electrons is emitted from a tantalum filament.

Materials that have a melting point at more than 5,000 degrees can be welded by the machine.

Roden and Gordon Lundquist, a fusion welder in Dept. 759, are using the electron beam welder to weld numerous parts for the Atlas SLV-3 and Centaur. Roden studied X-ray technology at Ohio State University and before coming to Convair was employed several months making X-rays of metal boiler pipe for the Cincinnati division of ALCO Products.

The electron beam welding machine was installed at Kearny Mesa in April.



PROVING ITSELF — William Roden, engineer in Convair Dept. 491, adjusts X-ray mechanism he has devised for use inside electron beam welding machine chamber. Welding defects show up in photographs.

GENERAL DYNAMICS PRODUCTS SHOWN

General Dynamics military products, ranging from guided missiles to short takeoff and landing craft, are on display this week (Oct. 25-27) at the annual Association of U.S. Army meeting in Washington, D.C.

Pomona division is exhibiting simulators, film, and graphics on its shoulder-fired Redeye air defense guided missile, being produced at Pomona division for the U.S. Army and Marine Corps.

Electronics division's AN/GRC-106 and AN/PRC-70 are on display. Canadair products featured in the General Dynamics' booth include models of the Dynavert V/STOL, Dynatrac, CL-89 drone, and transportable control tower.

Five GD Men Receive Masters From UC

Five General Dynamics men were among 14 San Diego County residents recently receiving master's degrees in engineering through the University of California at Los Angeles Off-Campus Graduate Program.

They were Larry K. Arndt of Dept. 596-0, Alfred H. Mills of Dept. 542-0, Charles W. Fenske of Dept. 551-1, and Lionel G. Wilson of Dept. 966-5, all of Convair, and Rodger Elmo Turnage of Stromberg-Carlson Data Products.

Five-Year Agreement Assures Labor Peace

(Continued from Page 1)

Principal benefits include:

An eight-cent per hour general increase in each of five years of the contract; plus an additional five-cent per hour immediate increase for employes in factory labor grade one and two and in the out-of-structure NR grade.

The contract includes a revised cost-of-living program by which eight cents of the present 14 cents cost-of-living adjustment becomes a part of the employe's base rate. The remaining six cents continue as a part of the cost-of-living adjustment, together with provision for additional adjustment if this becomes necessary during the life of the contract.

A Savings and Stock Investment Plan, effective as soon as necessary approvals are obtained, will replace the present Extended Layoff Benefits Plan. Under the new Savings Plan, employes may save by payroll deduction, with the Company adding 50 cents to every $1 the employe saves. During the first two years employes may authorize saving of 2 to 4 per cent of base pay; up to 6 per cent the third year; 8 per cent the fourth; and 10 per cent the fifth year. The current ELB will continue until the effective date of the Savings Plan. Options in the Savings Plan as to how the savings will be invested are similar to those in the salaried plan **(GD/NEWS, Sept 1, 1965).**

A new sick leave accumulation plan will place unused sick leave in trust to a maximum of 30 days, for use in cases of illness, bereavement and termination.

An improved union security program provides: A. Employes not currently members of the Union are not required to join; if they join during the new agreement they may withdraw during a three (3) day period after one year of membership. B. Employes currently members of the Union must remain members for the duration of the contract. C. New hires, transfers into the bargaining unit, and recalled employes, who were not members, are required to become members. Such employes shall be allowed to withdraw during a three (3) day period after one year of membership.

Two additional holidays are provided in the agreement. One, effective this year, will be the day after Thanksgiving. Another holiday (bringing total yearly paid holidays to 10) will be effective in the fifth year of the agreement, with an option at that time to change the day after Thanksgiving holiday to some other date if desirable.

Three weeks vacation after ten years of service, effective immediately. Four weeks of vacation after 20 years service will become effective after the fourth year of the agreement.

Many improvements have been made in group insurance, retirement, personal liability insurance, and per diem travel and mileage allowances. Details of these improved benefits are being explained in meetings and will be spelled out in explanatory booklets.

"The important thing now is to turn this five years of labor peace into new business which in turn will mean additional jobs," Hendrix added.

Negotiations are continuing at both divisions with several other unions and results will be announced at a later date.



"Ever have days when you're all thumbs?"



BRITISH GUESTS — J. R. Anderson, left, Hawker-Siddeley Dynamics Ltd. resident representative, and Frank Chambers, right, Convair's manager of contracts, show visiting Hawker-Siddeley Dynamics representatives R. A. Staines, second from left, and H. D. Laidlaw an Atlas-Centaur Six insulation panel recovered from Atlantic. Panel is on display in Bldg. 2 main lobby at Kearny Mesa.

Convair Plays Role in 'EUROPA-1' Three Stage Launch Vehicle

As a result of a technical assistance contract with Hawker-Siddeley Dynamics Ltd., Convair is playing an indirect role in production of the Blue Streak first stage of the three-stage British-French-German EUROPA-1 launch vehicle that may place a 1-ton research and communications satellite into orbit.

Three HSD "working engineers" were at the Kearny Mesa plant and Vandenberg AFB last week conferring with their engineering counterparts from Convair.

They were H. D. Laidlaw, chief environmental engineer from Hatfield; R. A. Staines, space projects division coordinating engineer from London; and H. Sedgwick, systems integration section leader for Stevenage.

HSD and its predecessor firms have had limited technical assistance contracts with Convair since 1958 with a resident representative based at the Kearny Mesa plant.

J. R. "Jim" Anderson, the current resident representative, actually serves as USA West Coast representative for HSD. He is a graduate of Imperial College, London, and previously was employed at the Royal Aircraft Establishment in Farnborough and Bedford. Before coming to Convair, he was chief superintendent of wind tunnels for HSD.

Earlier resident representatives were Air Commodore W. R. "Bill" Wurstall, Air Commodore W. F. "Tommy" Thompson and John Grierson. Anderson in April replaced Grierson, a widely known former RAF officer and racing and test pilot who made the first solo crossing of the Greenland ice cap.

Blue Streak, the largest rocket developed outside the United States or Russia, was originally developed but never test fired as a 2,500-mile-range missile.

It stands 69 feet tall, is 10 feet in diameter, is powered by twin Rolls-Royce engines producing 300,000 pounds thrust and has had three successful firings as a launch vehicle.

Annual 'Christmas in Mexico' Trip Offered All Dynamics Folk

"Christmas in Mexico," two-week trip sponsored for General Dynamics people by the Convair Management Club, will give some 40 tourists the rare opportunity of joining in the traditional holiday customs of another country.

This is the second year the Management Club has offered the year-end jaunt under the expert guidance of Convair's James Hardison. Hardison has conducted GD tours to Mexico the last five years. James Woodhouse is club coordinator.

Dates of this year's trip are from Dec. 18 to Jan. 2. Package cost for transportation by Pullman car, hotel rooms, most meals, and sightseeing admissions is $385 per person.

This fee is based on double occupancy of roomettes and drawing car rooms on the train. Single rooms are slightly more.

Deposit of $50 should be paid as soon as possible to reserve a place. Deadline for signing is 30 days before the Dec. 18 departure date.

Stops will be made at Guadalajara, Mexico City, Acapulco, Taxco, and Cuernavaca. Christmas Eve and Christmas Day will be spent at Acapulco.

All interested GD people and their friends may see a preview of the trip Nov. 10 when Hardison will show colored slides of last year's tour. Showing will be in the Convair cafeteria, Pacific Hwy., at 7:30 p.m.

Full details and complete schedule may be obtained from Hardison at his home phone, 276-5805. He also is taking reservations at that number.

Data Products Move Started

First in a series of moves which eventually will consolidate all Stromberg-Carlson Data Products functions under one roof in the Hancock St. building at San Diego saw 35 people relocated the middle of this month.

C. V. Shannon, manager, has moved his headquarters to the third floor of S-C Plant 2. His extensions now are 1 and 2, through the S-C Plant 2 switchboard.

J. H. Redman, manager of marketing, and personnel reporting to him also have moved to S-C Plant 2.

Operations remaining at S-C Plant 1, including some 40 persons, are industrial relations under J. W. Swank, manager; accounting and data processing under N. J. Barnes, controller; D. L. Macey, chief of material, and his purchasing and material control personnel.

Relocation of these functions will take place between now and shortly after the first of the year.

Today Is Last Chance For Memory Class

Today (Oct. 27) is deadline for enrollment in the memory course taught by Donald Robinson from 5 to 8 p.m. Wednesdays for 9 weeks in the Bldg. 8 cafeteria at Kearny Mesa plant.

Wives and teen-age children of Convair employes also may obtain authorization to attend the course, which will provide instruction in various memory methods.

Cost is $10 for Management Club members and $12 for others. Employes who attended the first session of the course last week learned how to recall in proper sequence 35 objects through the link memory method.

LASER USED IN NEW MEASURING SYSTEM OF HIGH SENSITIVITY

Scientists in Convair's Dept. 596-0 laser and optics group have developed a laser interferometer system far more sensitive than techniques previously available for measuring vibration, displacement and angles.

Stanley Logue, senior staff scientist, said the new system may be useful in several projects now being conducted or under study by General Dynamics divisions as well as in future space tracking systems.

Logue and M. K. "Mike" Yonemitsu, senior electronics engineer, devised the system using a laser light source, a special interferometer, a photomultiplier and signal processing electronics. Charles Baker made the optical components and George W. Carmichael did circuit designs.

"A similar system carried aboard a spacecraft beyond the atmosphere could be used for precise tracking and angle measurement," Logue said. "The system is sensitive enough to measure angles that would correspond to a six-foot lateral movement of another spacecraft as far away as the moon."

In displacement and vibration measurements, two light beams are reflected from two mirrors one a fixed "reference" and the other one the element being measured. The interferometer compares the distance to the moving element and the distance to the fixed element, with the photomultiplier counting this distance difference in light wave lengths.

A bolt head or almost any surface can be used instead of a mirror when weight of a mirror might upset the measurements. Then only the light beam would "touch" the moving object.

Previously available techniques enabled engineers to calibrate vibrations and displacements only to about 20 billionths of an inch. The new Convair interferometer system makes possible accurate measurement to 10 trillionths of an inch!

Logue said the new system for precision measurement is a modification of interferometer techniques used in the Azusa and Glotrac frequency precision tracking systems.

"We shortened our wave length 100,000 times by going to light waves," he said. "The wave length we are using in our helium-neon laser is 25 microinches."

Scientists in the department said the system may replace many current calibration standards and could be used for measuring seismic vibrations of the earth and as a tool in investigating distortion caused by the atmosphere on work done with telescopes and cameras.

Training Programs For Managers Set At Warner's Ranch

A "Sensitivity Training" program for managers is offered Convair Management Club members over the weekend of Nov. 12-14 at Warner's Ranch, Warner Springs.

Designed especially for men in supervision, the training is directed toward increasing personal growth, especially in performance as a leader and cooperative participation in work groups.

Trainers will be Robert F. Smith, formerly of Astronautics, now president of Phillips-Ramsey, Inc., and Mike Blansfield, president of Blansfield, Smith and Co. Blansfield is a Fellow of the National Training Laboratories of Bethel, Me., and a Visiting Fellow in Industrial Management at the University of Leeds, England.

Charge of $70 per person includes tuition, materials, three nights' lodging, meals and tips.

Registration must be made by Nov. 3 with Bob Williams, chairman of the Management Club's education committee, zone 586-00.

Excellent Craftsman Performance Rewarded

Machine shop Dept. 715 employes at Air Force Plant 19 took "Craftsmen of the Month" honors for the third consecutive month in September with a quality index of 121.0 and a .72 parts rejection percentage.

During the month, the department produced 2,652 parts with only 19 being rejected. Officials said this shows considerable improvement from six months earlier when, in April, the department produced 2,247 parts with 174 rejected.

Each member of the department is to receive a Craftsmanship pin and a letter of commendation from Jack L. Bowers, Convair general manager.

Winning Craftsmanship honors for the second consecutive month in September was sheet metal Dept. 001 at Lindbergh Field with a quality index of 109.6.

Also qualifying for "Craftsmen of the Month" honors for September were SLV launch operation Dept. 576-12 at the Western Test Range and operations support Dept. 571-3 at the Eastern Test Range.

Dept. 576-12 at WTR reduced its average defects per 100 inspection tasks to 3.9 in September, compared with 11.5 six months earlier in April. The department also was a Craftsmanship award winner in May.

The September win for Dept. 571-3 at ETR was its first during the five-month period it has been included in the competition. During the past three months, the department has reduced its defects per 100 inspections from 9.3 to 2.8.

Among the 19 runner-up Kearny Mesa and AF Plant 19 departments in the Craftsmanship competition in September, machine shop Dept. 731 at Kearny Mesa placed second with a quality index of 114.7. Final assembly Dept. 761 at Kearny Mesa was in third place just 3/10 of a point back with a 114.4 quality index.

At Lindbergh Field plant Dept. 041 was second and Dept. 015 was third.



S-C VISITORS — Two separate foreign groups inspecting Stromberg-Carlson Data Products advanced electronic equipment at San Diego facility last week are (upper shot) French, German, U.S. visitors examining face plate under development for advanced display equipment. Dan Haflinger of S-C advanced systems group (third from right) explains face plate. Richard Glaeser, S-C systems coordinator, is at far left. In lower photo J. H. Redman, S-C manager of marketing (far left), explains S-C 3070 Electronic Printer to Japanese study team.

Study Teams From Abroad Tour Data Products in San Diego

Stromberg-Carlson Data Products' advanced electronic equipment was viewed by two groups from foreign countries during one day at the San Diego Hancock St. facility last week.

A group of French and German military and industrial leaders and a study team from Japan visited Stromberg-Carlson in separate tours Oct. 18 to see the S-C display and information processing equipment and hear about research and development programs now under way.

The French and German visitors are touring U.S. military bases and industrial plants inspecting military display equipment in a Mutual Weapons Development Data Exchange Program sponsored by the Air Force Electronic Systems Division, Hanscom Field, Mass.

They included Commandant P. Charvet, French Ministry of the Army; Jean-Marc Chabanas, French Air Force; Messrs. Le Meur, Abraham, and Michel, all from Paris; Wolfgang Limpert of Heidelberg, Germany; Prof. Heinz Schmidtke; Dr. Heinz Karl Schulz, of Telefunken, Ulm, Germany; Prof. Karl Ludwig Lenz, Siemens and Halske, Munich.

Accompanying them were Col. Roy Morgan, Lt. W. M. Robertson, John F. Martell and F. M. Farrell, all from Hanscom Field.

The eight Japanese visitors were concluding a six weeks tour of Europe and the United States as members of an electronic data processing systems study team under the auspices of the Japan Management Association.

They have been observing and studying the present status of computers and other information-processing equipment and their applications to management control.

Koji Kohchi, EDP consultant-interpreter for the Japan Management Association, headed the group. Others, all executives in Japan industrial companies, were Matsuo Ariki, Tokai Bank, Nagoya; Mitsoyoshi Takeda, Japan Monopoly Corp., Tokyo; Minoru Kaji, Toppan Printing Co., Ltd., Tokyo; Takuya Goto, Kobe Steel Ltd.; Takashi Yamamura, Japan Development Bank; Kazuo Moriya, Nippon Signal Co., Ltd.; K. Aoyagi, Mitsui Bank, Chiyodaku.





THAT'S JIM? — Associates won't recognize Jim Moore, normally clean-shaven Convair draftsman, as he looked during expedition in Andes. Party climbed half dozen peaks in 20,000-ft. class while on trip.

General Dynamics Men Active As NMA Convenes on Coast

General Dynamics representatives will be taking an active part in the annual National Management Association convention today (Oct. 27) through Friday in El Cortez Hotel, San Diego.

Representatives of the Pomona, Fort Worth, Convair, Electronics and Stromberg-Carlson divisions will be among some 600 Management Club delegates attending from throughout the United States.

L. Eugene Root, president of Lockheed Missiles and Space Co., Sunnyvale, Calif., featured speaker for the presidents' luncheon tomorrow (Oct. 28), will be introduced by Jack L. Bowers, Convair general manager.

Other key convention speakers will include Fred J. Mayo, president of Ingalls Shipbuilding Corp., of Pascagoula, Miss., and Dr. Kenneth D. Wells, president of Freedoms Foundation of Valley Forge, Pa.

James L. Budros, General Dynamics director of compensation and personnel development from Corporate Headquarters, New York City, will speak at one of three Management Club leader sessions on the role of clubs in furthering company objectives. R. A. Evans, Convair personnel administration manager, will be chairman for the session.

D. H. McCoy, Convair chief of administrative services, will chair a similar session at which Robert F. Smith, president of the Phillips-Ramsey advertising firm of San Diego, will speak on club opportunities in civic affairs and public relations.

Clay Murdock of Stromberg-Carlson Data Products at San Diego will be chairman of a Friday management development conference.

W. E. Magnuson, Convair chief of reliability control special projects, is general chairman for the convention with L. H. Allen of Convair program planning and control as his assistant.

J. R. King, Convair Management Club president, is program chairman and also will lead an "early bird" idea exchange session for leaders of Management Clubs with more than 500 members.

C. J. Stafford of Convair is assistant program chairman and J. C. Duffy, also of Convair, is promotion chairman.

John H. Payne of Fort Worth division is vice president of Zone B of the NMA and a member of the NMA executive committee.

Regional Training Conference to Hear Four Dynamics Men

Four Convair and Pomona division men will be speaking at the 13th annual Western Regional Training Conference of the American Society for Training and Development next week at Vacation Village.

Ross A. Evans, personnel administration manager for Convair, will speak on "The Professional Trainer — What the Company Expects." Ray T. Blair Jr., assistant to the general manager at Convair, will speak on "Performance is Not Enough."

Jack A. Croft, chief of educational services for Convair, will participate in a forum on apprenticeship training. A. E. Lambert of educational services at Pomona will discuss "An Integrated Communications Program."

Blair also is scheduled to address the California Society of Certified Public Accountants on "Effective Communication" Nov. 17 in the Town and Country Hotel.

In The Andes

Convair Draftsman Returns From Scaling Peaks in Peru

Jim Moore, a draftsman in Convair engineering instrumentation (Dept. 656-0) at Kearny Mesa and a member of Convair's Adventurers club, recently spent six weeks with a small expedition climbing 20,000-ft. peaks in the Cordillera Blanca range in the Peruvian Andes.

During the expedition they scaled one 19,500-foot peak that had never before been climbed.

Moore was one of two Californians in the party, which used trucks, mules and burros in getting supplies to a base camp at Quebrada Honda, about 150 miles north of Lima.

A "high camp" was established at higher elevation for each of the six climbing trips. Four or five days of climbing were required to reach each of the snow and ice-covered peaks. Wives of some of the climbers also made the trip to Peru and accompanied the men mountaineers on some of the less difficult climbs.

Moore took an Aeronaves de Mexico flight from Tijuana to Mexico City, then flew to Lima in the Convair 990 operated by Aerolineas Peruanas, a one-plane airline.

"They keep that 990 in the air all the time and make two flights a week with it from Mexico City to Rio de Janeiro," he said.

Moore, who has been climbing since he was 11 and has also been on expeditions in Europe, Africa, Alaska and Canada, said he climbs because of the "esthetic pleasure" it offers and because it gives the climber a feeling of "really living" that no other sport offers.

An experienced photographer, Moore shot 70 rolls of film with his Rolleiflex and Leica cameras during the trip. He said the bright sun and snow at high altitudes made his light meter "go wild" and he had to rely on previous experience in making most of his shots.

Indians, who live by raising crops on the valley floors and supplement their incomes by assisting climbing expeditions, served as porters. Miller's porter, Jacinto de Paz of Hauraz, Peru, paid Miller signal honor by naming him godfather to a son born during the expedition!

ASTME to be Briefed By Dynamics Men on High Energy Forming

Warren G. Mang, product manager of Electro Dynamic division, and James S. Throckmorton, eastern regional manager of General Atomic, will be featured speakers at a High Energy Rate Forming symposium-demonstration Oct. 30 at Newark, N.J.

The symposium is sponsored by the North Jersey Chapter of the American Society of Tool and Manufacturing Engineers and the Newark College of Engineering.

Mang, who has been closely connected with development of the company's Dynapak, will discuss pneumatic-mechanical forming and its present and future applications.

"Magnetic Pulse Forming of Metals," is the topic of Throckmorton who heads General Atomic's Magneform Eastern Regional Office.

Coineers Hear Talk on Malta

Convair Coineers heard Leonel Panosh, past president of the American Numismatic Association, present a slide-illustrated talk, "Coins of the Grand Masters of Malta," at their Oct. 20 meeting.

He displayed his rare collection of coins struck by Knights of the Crusades on Malta from the 14th to 18th centuries.

CHESS TOURNEY BEGINS NOV. 3

All interested Convair employes are invited to participate in a chess tournament to begin at 7:30 p.m., Wednesday, Nov. 3, in the CRA building. Further information can be obtained by calling Jack Horning, tournament director, at the Kearny Mesa plant, ext. 2574.

Commodities Series Planned by Mgt. Club

A six-week series of presentations on commodities will be held for Convair Management Club members by the club's education committee from 5 to 6:16 p.m. Tuesdays beginning Nov. 9.

Included in the sessions will be a film from the Chicago Board of Trade on futures trading, a series of lectures, open discussion and work sessions.

Bob Williams, education committee chairman, said if arrangements can be worked out, Gerold Gold, author of Modern Commodity Futures Trading, will address the class by telephone several times.

"Various work materials including charts and literature is being secured for the group's benefit, too," he said.

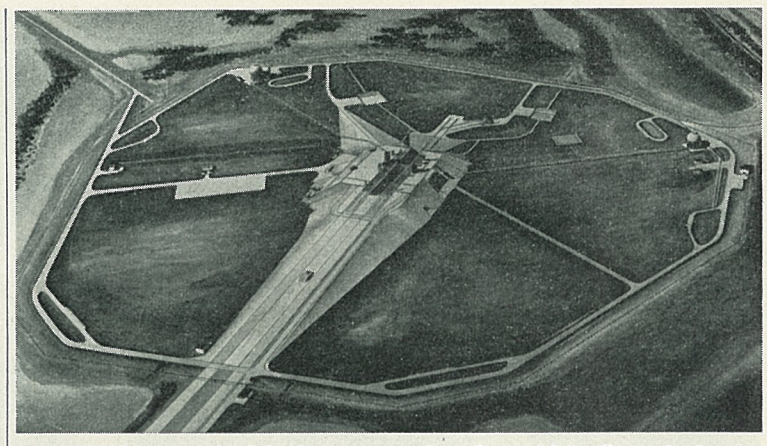
Included in the lectures and open discussion will be information on origin of the futures market and its utility to the grower, processor and consumer; the economic role of the speculator; factors determining price fluctuations and the theory of hedging.

Investment Lecture Series Scheduled

An investment lecture series is to be offered Tuesdays for five weeks at Lindbergh Field plant under auspices of the Convair Management Club education committee.

Robert A. Bowden of Hornblower and Weeks will be lecturer and will cover mutual funds, stocks, convertible bonds, warrants and commodities.

Lectures will be from 5 to 7 p.m. in the engineering auditorium, Bldg. 5 at Lindbergh Field. Attendance will be restricted to Management Club members.



NETWORK — Model shows complex for which Convair is designing closed-circuit TV monitor system.

Convair Builds TV Setup For Launch Monitoring

When America's first Apollo astronauts leave Complex 39 at Merritt Island, Fla., for the moon, the countdown and launch of their space vehicle will be monitored by engineers in launch control centers several miles away.

They will use a complex closed-circuit television system now being designed in Convair motion pictures and television, Dept. 124-0, Kearny Mesa.

Convair recently was awarded a $2,198,500 contract for the system, which will include 85 cameras, 280 monitors, three repeater stations for signal amplification, a new type of fault-alarm system and a complex video switching system.

Loren E. Steadman of Dept. 506-4 is program manager and Verne E. Boyer of Dept. 124-0 is in charge of design engineering. A. L. Deane of Dept. 816-1 is handling materials purchase, E. V. Russell of Dept. 780-2 is in charge of parts fabrication and Sig Mucha of Dept. 145-1 is reliability control coordinator.

The Apollo launch vehicles will be assembled and fired from a launch umbilical tower platform. Twenty-seven of the cameras will be installed on the tower and must withstand the "fire bath" as the vehicle is launched. Twelve other cameras will be on the arming tower which will be backed away some distance from the vehicle before launch.

Strategically located cameras will have remote controls for "framing" desired views as the countdown progresses.

The system now being designed will be for two different pads in the complex, designated A and B, but includes equipment installation only in Pad A.

Steadman said the switching system will enable any of the television pictures being received from 60 different cameras to be viewed as desired on any or all of 100 of the monitors. Countdown clock information will be automatically superimposed on all monitor screens in the firing room.

The new television system will be "broadcast compatible" so pictures coming in on the various camera channels can be fed directly to nationwide television facilities.

Boyer said the new fault-alarm system to be designed, fabricated and tested at the Kearny Mesa plant will provide an "instant awareness" of any failure in the system and will pinpoint the location and type of failure. In case of a cable failure, the television signal will be rerouted through a standby cable.

Steadman and three design engineers from Convair will be at Merritt Island from January to September supervising equipment installation. B. G. MacNabb, Convair ETR base manager, will provide supporting technicians.

Although NASA directs the Apollo lunar exploration program, the television system contract came from the Canaveral District of the Army Corps of Engineers which is in charge of construction management at the launch complex.

Salvage Schedule Decided For Month

Salvage yard schedule at Convair sites for the next four weeks is:

Kearny Mesa plant—Oct. 30, Nov. 13.

Lindbergh Field plant—Nov. 6, 20.

Yards are open to employe sales on alternate Saturdays 8 a.m. until noon. All General Dynamics employes are eligible to shop upon presentation of ID cards. No children are allowed to enter either yard as a safety precaution.

Weight Engineers To Meet on Friday

Francis A. Pall will discuss an additive color system for motion pictures that he has developed at a meeting of the San Diego Chapter of the Society of Aeronautical Weight Engineers this Friday, Oct. 29, in the Valley Ho restaurant. A social hour is scheduled for 6:30 p.m. with dinner at 7.

Pall, a graduate of the University of Budapest, Hungary, is a mechanical engineer.

Division Reps Confer On ZD Techniques

Representatives of the Pomona, Fort Worth, Electronics and Convair divisions were at Convair Oct. 7 and 8 for a discussion on Zero Defects-type programs and how ideas being used by one division might be used to good advantage by another.

Wes Magnuson, chief of special projects in Convair reliability control, and Sam Petcher, senior reliability engineer, served as hosts. The group included Lee Dresser from Electronics in Rochester, E. C. Cauthen from Fort Worth and R. E. Barrow from Pomona.

Presentations on Convair's engineering quality improvement program, quality control index system, evaluation of effectiveness method and awards were given by M. M. Sherman, W. F. Rice, R. D. Woodward and L. H. Boggess.

S-C and Electronics Wives Meet at Lunch

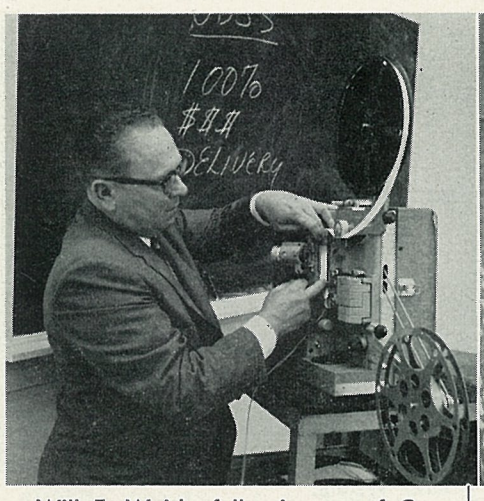
Stromberg-Carlson and Electronics wives held their regular monthly luncheon last week (Oct. 21) at the Red Coat Inn. Decorations were in the Halloween motif.

The no-host luncheons are held the third Thursday of each month at a different San Diego area restaurant. They are open to all wives of S-C and Electronics employes in the San Diego facilities without special invitation.

Income Tax Class Set For Thursdays

A four-week income tax course, sponsored by the Convair Management Club education committee, will be held from 5 to 7 p.m. Thursdays beginning tomorrow, Oct. 28, in the main cafeteria at the Kearny Mesa plant.

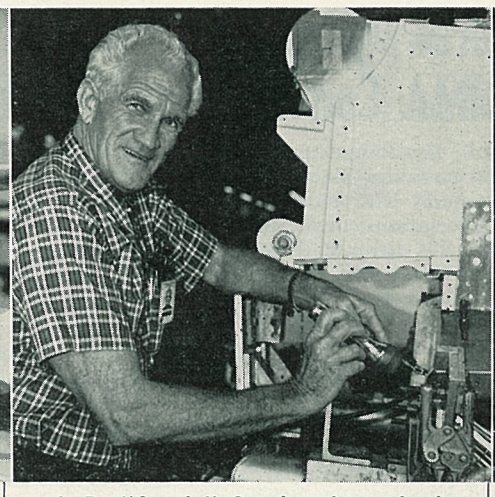
Gerald V. Baughman of Jay Kay Tax Service will be instructor. Cost is $1 for Management Club members and $2 for others. Reservation slips are to be sent to Bob Williams, mail zone 586-00.



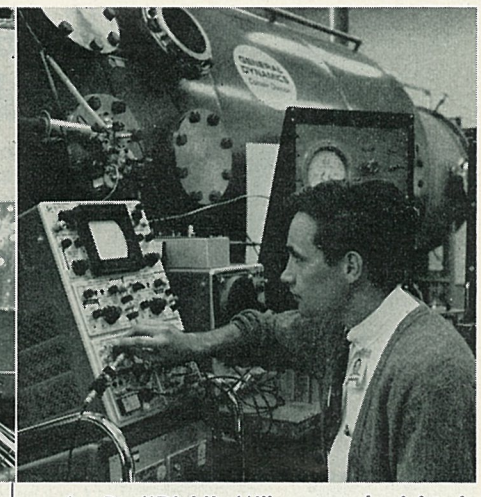
Will F. Weidenfeller is one of Convair's "school teachers" — actually an educational specialist in Convair educational services, Dept. 130-3. He is widely known at the Kearny Mesa plant for his work with the Product Improvement Program in which he meets with employes in various departments to try to iron out problems or find solutions that may result in production of better products. He also recently has served as instructor for an electroplating course and for the Reliability Electrical Connectors School. Weidenfeller lives on Kearny Mesa with his wife and four children and is a member of the American Society for Training and Development. He also serves as an instructor for the police science instructors' training program at San Diego City College and plays golf in his spare time.



An Electronics division electronic assembler, Ardise Rawlins learned her trade years ago in the old Balboa Park training center. She was hired by Convair in 1952 to help install harnesses in B-36s. Later she went to Plant 2 to place the first electrical harnesses in the F-106 mockup. Five years ago she transferred to Electronics division and holds both NASA soldering and Electronics welding certification. She says she enjoys her work, exacting though it is. She was welding tiny components of a JPL module under the magnifying glass of a resistance welder when this photo was taken. A native of Sterling, Kansas, Ardise moved to San Diego 16 years ago and has been with the company nearly 14 years. Her interests center mostly around activities of her son, Martin, 16.



J. D. "Sandy" Sanders is an institution in Convair inspection. He has been inspecting planes for well over 30 years, first at TWA's Kansas City base and most of the last 25 years at Convair. He spent three years in the early 40s with North American as superintendent of flight operations at Grand Prairie, Texas. At Convair he was inspector in field operations and flight test from the days of the PBYs and B-24s through the jet transport program. Most of those years he was in supervision. From 1954 to 1960 he was chief inspector at Palmdale facility during testing of F-102s and F-106s. Now he is assigned to Little Joe II and Convair 600 programs. His son, Jim, also is at Convair in the data station. Sandy's main outside interest, besides his four grandchildren, is teaching physical fitness.



A. R. "Dick" Miller, a physicist in Convair space sciences' plasma physics lab, Dept. 596-0, takes measurements indicating the efficiency of a pulsed plasma accelerator. The plasma in this case is nitrogen and the thrust balance mechanism located in the vacuum chamber in the background is sensitive to a thrust of 1/10,000 of a pound, or less than one millionth of an inch displacement. The thrust balance technique has been under development since January and is now operational, measuring thrust, mass and electrical efficiency. Miller, a graduate of Stevens Institute of Technology in Hoboken, N.J., has been a Convair employe two years and lives in Mission Beach. He's a bachelor and his hobby is restoring old foreign sports cars. He recently has restored an old M.G.T.C. and an old Mark V.

Brown Takes Over From Chana In Charge at Sycamore Site

W. F. "Bill" Chana, manager of the Sycamore Test Site for the past three years and a Convair man since 1941, has been appointed chief of proposal development in Dept. 581-3.

H. Maynard Brown Jr., test conductor at Sycamore for the past nine years, succeeds Chana. The official title for his position is chief of Centaur-Sycamore operations (Dept. 976-0).

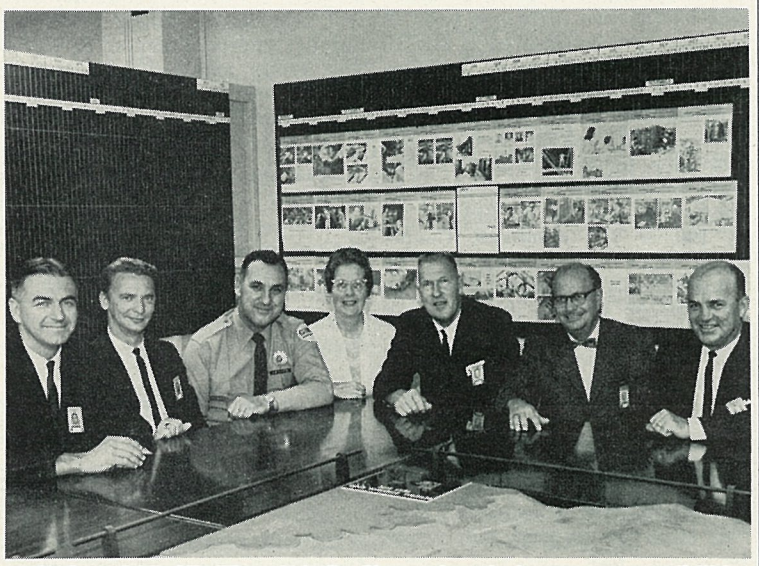
Chana spent his first 12 years at Convair flight testing aircraft ranging from the first XB-24 Liberator to PBYs, the giant XC-99 and the 240, 340 and 440 transports. He was flight test and instrumentation engineer for the XF-92, and for subsequent craft including the Sea Dart and Pogo VTOL.

He managed the Lobber project and later served as Astronautics base manager at Fairchild AFB and afterwards as manager of field support operations at Cheyenne and Omaha.

Brown, a graduate of Newark College of Engineering in Newark, N. J., has been a Convair man since 1955 and served as a research engineer for two years before going to Sycamore as assistant test conductor.

On the day Chana and Brown received their new assignments, Sycamore completed its third year without a lost-time accident.

Chana now reports to F. J. Dore, manager of advanced design, and Brown to J. S. Harrison, manager of Centaur-test operations.



SYCAMORE STAFF — W. F. Chana handed over responsibilities as Sycamore base manager recently to H. Maynard Brown Jr. From left: Chana, Brown, Harvey Gillespie, Lillian Silkwood, Ralph Harper, Walter Baumgartner, Dodd Burright. Wall in background is covered by copies of General Dynamics "Safety Idea Exchange" bulletins, tying in with facility's record of three years without a lost-time accident.

Convair Folk at Vandenberg Score Two-Year Safety Mark

Convair employes at Vandenberg AFB have completed two full years without a disabling injury. Safety section officials said this represents more than three million manhours of work without a lost-time accident.

Jack L. Bowers, Convair general manager, in a congratulatory message to Donald L. Fagan, manager of base operations at Vandenberg, termed the two-year safety record "a notable achievement and a definite reflection of the diligence and sincere concentration on the part of all members of your staff."

He said continued efforts such as these "can only enhance the Corporation's cost avoidance program."

Convair earlier this year received a National Safety Council Award of Honor for operating 16,125,599 manhours without a disabling accident during the period from Sept. 11, 1964, to March 21, 1965.

CRA Drivers Delay Installing Officers

Installation of new officers of the CRA Sports Car Club has been postponed until Nov. 6 because election results have not yet been determined, said Al Oehler, club president.

The annual installation dinner previously had been scheduled for Oct. 23.

All other plans remain the same. The affair will be held in the Gillespie Field Clubhouse with the social hour starting at 6:30 p.m. A catered dinner will be served at 7:30 p.m.

Commissioner Gerry Wright will install officers following the dinner. The rest of the evening will be spent dancing to records.

Reservations must be made by Nov. 2 with Carol Backus, home phone 583-9318.

Rustad, McCullough Leading in Bridge

Mitzi Rustad and H. R. McCullough have been leading the Convair Bridge Club fall series with both being double winners in the first two weeks of series play.

Winners on Oct. 8 were H. R. and C. R. McCullough, north-south, and Bob and Mitzi Rustad, east-west. Mitzi Rustad and H. R. McCullough were north-south winners and Stella Christy and Bernie Blutinger were east-west winners on Oct. 15.

Other recent double winners have been Ed Lou, Francys Darr and Jim Williams. Blutinger and Stella Christy each have had victories with Williams.

Next month's monthly Master Point competition will be on Friday, Nov. 5. All interested persons are invited.

Flyers Firm Plans For Baja Airlift

Bonair Flyers will firm plans for their coming airlift to Baja California and hear a talk by a San Diego airport representative at their Nov. 2 meeting.

G. K. Seymour, supervisor of the Lindbergh Field flight service station, will speak to the flying group at 7:30 p.m., Room C, CRA Clubhouse.

Electronics Loop Fields 14 Teams

Fourteen teams in Electronics bowling league at San Diego swung into action last month at Frontier Lanes. They bowl regularly each Thursday evening.

Heading the league as president is Ray McIntyre. Ed Lou is vice president and Ellen Weight, secretary-treasurer.

New Production In Rehearsal

Triangle Players are in the final stretch of rehearsals for their first production, "Present Laughter," which will open Nov. 11 in CRA theater, Kearny Mesa Clubhouse.

Show dates will continue Nov. 12-13, 19-20, 24-25, 26-27. Tickets will go on sale the first of next week (Nov. 1) at employe services outlets. Discount prices for General Dynamics people, at 50-cent reduction in regular prices, are $1.50 for reserved seats and $1 for general admission.

Director John Cone said that the Players have secured William Irish for the lead in the Noel Coward comedy.

Other members of the cast include Pat Lisk, Susan Sage, Prudence Moore, Eileen Rand, Vera Mingle, Marian Bear, Al Varon, Gordon Samuelson, Dick Lightner, Harry Asher.

Travelers Journey To Rally at Hemet

CRA Travelers attended a Travel Trailer Rally Oct. 15 through 17 in Hemet, with the club being represented by 22 persons in nine trailers. Approximately 650 trailers were assembled on the Hemet fairgrounds.

Helen Peterman took first place with handmade china and Gary Cox placed third with model cars in a hobby show following a parade Saturday. Bus tours of the area were conducted by Hemet. A horse show and drawing were held Sunday afternoon.

The Travelers will hold a meeting at 7:30 p.m. Tuesday, Nov. 2, in the CRA clubhouse. For information, call Virg Marshall at the Kearny Mesa plant, ext. 3541.

Electronics and S-C Links Event Slated

Linksmen of Electronics and Stromberg-Carlson will play Cottonwood this Sunday (Oct. 31) with first foursomes teeing off at 10:30 a.m. Next match for the Men's Golf Club will be Nov. 14 at Rancho Bernardo.

Anyone else who wishes to join the tourneys is asked to contact either Ray Sandoval, ext. 1840, or Claude Ganger, ext. 1887, Lindbergh Field.

All Electronics and S-C golfers are urged to sign up for the 24-man team which the club hopes to field in the interdivisional tourney. Fred Nuzzo, president of the club, said that Electronics and S-C will host the next event.

Big Game Hunters Reminded of Drawing

Big game hunters may start entering their bags now to get their names in the hat for the annual Big Game drawing, held yearly under CRA Gun Club auspices.

This year's drawing will be the latter part of December, however entry forms are available at all Convair, S-C, and Electronics employe services outlets.

As usual, valuable and usable prizes will be given. The number and value depend entirely on the number of entries.

Anyone who has bagged a large game animal, either with a gun or bow and arrow, during the year may enter. Big game includes such animals as deer, elk, moose, javelina, bear.

All General Dynamics and Stromberg-Carlson people and members of their immediate families, meaning wives or husbands, sons and daughters, are eligible.

Girl Golfers Tour Tecolote Course

Mabel Dunn and Violet Gilbert won CRA trophies for their top scores in GD Women's Golf Club's tourney Oct. 9 over Sam Snead's Tecolote course.

Twenty-eight turned out to compete in two flights. Mabel won Flight A and Violet held low score in Flight B.

Others who won merchandise certificates in Flight A were Kathryn Mix, Barbara Bugbee, Wanda Rose, Ann Gagnon, Nell Bartlett.

Flight B winners were Kathryn Hagley, Juanita Garcia, Doris Parker, Betty Jackson, and Florence Kell.

Next month's tournament will be Nov. 13 at Mission Bay golf course. Tee-off times start at 8 a.m.

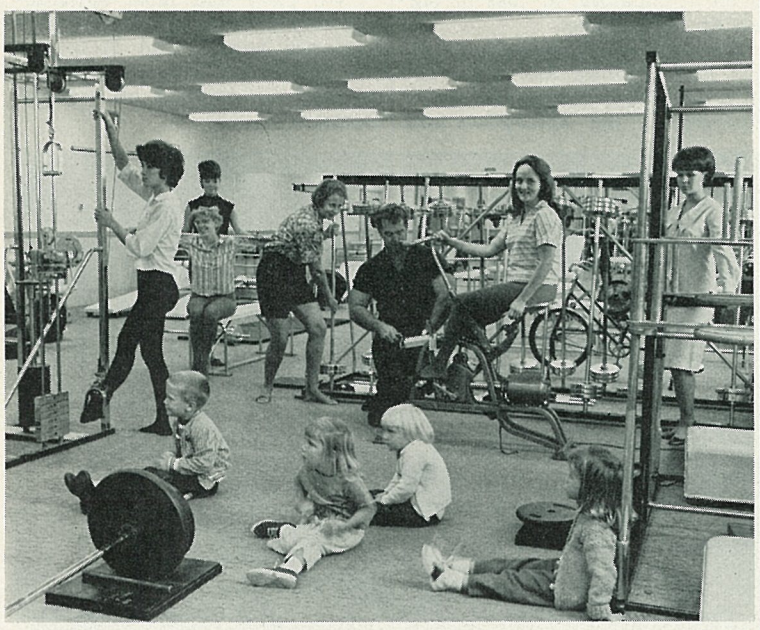
Shooters Will Vie For Sporting Goods

Shooters will vie Nov. 7 for merchandise prizes in a CRA Gun Club non-registered 50-target shoot at Gillespie Field Range. Shooting begins at 10 a.m.

Sporting goods prizes will go to the six high scores on the total 50 targets. Twenty-five targets will be 16-yd. and 25 will be handicap, shot on a sliding scale. Scores on the 16-yd. targets will determine the handicap, with 18-yd. minimum and 25-yd. maximum.

Buy U.S. Savings Bonds by payroll deduction. It's the most painless way to save.

Sports & Recreation



WORKOUT — Convair wives tone muscles in CRA Health Club as youngsters watch. From left, June Schneider exercises with jungle pully, Pat Lamoureux helps Dona Weas with plain bar exercises, Elizabeth Wright prepares to use bar bells, Frank Echevarria adjusts exercycle for Joyce Jaskolski, and Carol Pendergast works with stretch belt. Children, from left, are Robert Weas, Carol Jaskolski, Karen Weas and Wendy Schneider.

Trial Memberships Offered In CRA Health Club at Mesa

Those Convair families who have been "planning to do something" to improve their physical fitness now can obtain a six-month trial membership in the CRA Health Club.

The new half-year memberships will be $12 for an individual employe or $18 for the entire family —less than 50 cents a week for the individual or 75 cents a week for the family. Annual memberships run $18 for the individual and $27 for the family.

Located in CRA headquarters building, the Health Club is well equipped with vibrators, Olympic weights, dumbbells, barbells, machines of various types, showers and lockers, a sauna and steam bath and a full-body sun lamp.

Frank Echevarria, Health Club director, said reducing and weight gaining programs are tailor-made for the individual by the club's professional instructors.

Health Club facilities are open for women only from 9:30 to 11:30 a.m. Monday through Friday and for men only from 4:30 to 10 p.m. Mondays, Wednesdays and Fridays.

Family or "coeducational" hours are 11:30 a.m. to 4:30 p.m. Mondays, Wednesdays and Fridays, 4 to 10 p.m. Tuesdays and Thursdays, and 10 a.m. to 5 p.m. Saturdays.

Baby sitting service is provided Tuesday and Thursday mornings at 50 cents per hour for up to two children per family.

The full-body sun lamp in five minutes produces the equivalent of a three-hour exposure to the sun at the beach. The sauna is open during all hours the gym is open. On days when participation is mixed, it is open for women on the hour and for men on the half-hour.

Dr. Gilbert M. Clarke, chief plant physician, has encouraged all Convair employes to exercise regularly.

"The heart is a muscle that maintains circulation by pumping blood to itself and to the other organs," he said. "When we give a heart work to do it becomes stronger and becomes 'toned up' to do a better job."

However, Dr. Clark warned that exercise should be undertaken systematically. "If one sits at a desk for weeks then goes out on a Saturday and over-exerts himself, he may do more harm than good," he said.

Wives Club to Hold Halloween Potluck

Convair Wives will hold their annual Halloween family potluck picnic beginning at 1 p.m. Sunday, Oct. 31, at the CRA Missile Park picnic area.

Costume judging will be held at 1:30 p.m. with lunch at 2 p.m., games at 3 p.m. and bingo at 4 p.m. Prizes will be awarded for the prettiest and funniest costumes. Discount tickets will be available for the merry-go-round and train rides for children.

Families attending are asked to bring covered dishes. Reservations may be made by calling Mary Gaus, chairman, at 273-5198; Jeanne Jones at 582-1976, or Frances Brooks at 469-8793.

Keg Teams to Enter Industrial Tourney

Bowling teams wishing to enter the San Diego Industrial Recreation Council's annual tournament Nov. 6 and 7 at Pacific Recreation alleys may contact Forrest Erwin, ext. 2884, or Mike Brooks, ext. 4098, at Kearny Mesa.

The tournament will be open to men's teams, women's teams and mixed teams. Entries close Friday, Oct. 29. Convair employes now are participating in more than 100 bowling teams in CRA winter play.

Skaters Plan Halloween Ice Party; Games, Prizes And All For Free

Black cats and witches will glide again at CRA Ice Skating Club's annual Halloween costume party tomorrow night (Oct. 28).

Fun, games, prizes, and eats will augment the regular ice skating session at Mission Valley Ice Arena from 6:15 to 7:45 p.m., said Commissioner Bud Davies. And best of all—it's free!

Only cost will be the 35-cent skate rental fee for those who do not have their own.

All Convair families are invited. The only requirement is presentation of ID badge or club membership card.

All GD people who wish may continue skating during the open public session from 8 to 10 p.m.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS is noon, Nov. 3, ext. 3322, Kearny Mesa.)

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ADVENTURERS — Weekend outing to Joshua Tree National Park Oct. 30-31. Call Joe Quijada, ext. 4068, Kearny Mesa. So. Calif. canoe and kayak championship Nov. 6. Call Jim Moore, ext. 746, Kearny Mesa. Slide showing Nov. 17, 8 p.m., CRA auditorium.

BADMINTON — Weekly play Mondays, 7-10., Federal Bldg., Balboa Park.

BASKETBALL — Managers meeting tomorrow (Oct. 28), 7 p.m., Room B, CRA Clubhouse.

BRIDGE — Play every Friday night, 7:30 p.m., CRA Clubhouse. Master point night Nov. 5.

CHESS — Tournament play begins Nov. 3, 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FLYERS — Meeting Nov. 2, 7:30 p.m., CRA Clubhouse, Room C. Trip to Baja California Nov. 6-7.

GARDEN CLUB — Meeting Nov. 3, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Sign between Oct. 28 and Nov. 5 for CRA tourney Nov 13-14, Cottonwood. Call ext. 1111.

GUN CLUB — Merchandise shoot 10 a.m., Nov. 7, Gillespie Field Range.

ICE SKATING — Free Halloween costume skating party tomorrow (Oct. 28), 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — Shoot 9:15 a.m., Nov. 14, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting Nov. 3, 7:30 p.m., CRA Clubhouse.

SKI CLUB — First meeting of combined water and snow ski club Nov. 2, Catamaran Inn, 8:30 p.m. Dry land ski school Nov. 7-14-21. Conference Bldg., Balboa Park. Call Joe Harris, 284-0278, for information.

SPORTS CAR CLUB — Installation dinner changed to Nov. 6, Gillespie Field Clubhouse. Make reservations by Nov. 2 by contacting Carol Backus, home phone 583-9318. Meeting Nov. 10, Convair executive dining room, Pacific Hwy.

TABLE TENNIS — Instruction Tuesdays, 7 p.m. Play Mondays through Thursdays, 5:30-10 p.m., CRA Clubhouse.

TRAILERS — Travelers meet Nov. 2, 7:30 p.m., CRA Clubhouse.

WIVES — Halloween costume party and family potluck Oct. 31, 1 p.m., CRA picnic grounds, Kearny Mesa.

Managers of Hoop Teams Organizing

A basketball managers' meeting will be held tomorrow night (Oct. 28) in Room B of the CRA Clubhouse, Kearny Mesa, at 7 p.m.

Both slow-break and regulation basketball leagues will be open to Convair, S-C, and Electronics players, said Pete Beyrer of CRA.

Shop league managers are urged to attend the organization meeting to discuss eligibility rules for the coming season. Playing rules for slow-break teams also will be decided.

CRA Golfers to Play Cottonwood Course

A CRA golf tournament will be held Nov. 13 or 14 at the Cottonwood Country Club southeast of El Cajon. Turkeys will be given to winners.

Phone ext. 1111 at Kearny Mesa between Oct. 28 and Nov. 5 for starting times.



ALL ABOARD — Younger members of CRA Riding Club get set for Saturday night (Oct. 9) hayride. Young lady on pony in foreground is Rose Marie Pena, daughter of Joe Pena, Riding Club commissioner.

Riding Club Takes Hay Ride, Returns to Ranch For Supper

About 65 CRA Riding Club members and guests on Oct. 9 had a "ball" — riding out Ruffin Road and across the mesquite-covered mesa toward Serra Mesa on a hay wagon, then coming back to the Mountain View Ranch stables for a chili supper.

Conrad C. Nash, club president, and Boyd Spencley took turns driving the hay wagon, which was loaded on all four sides and in the middle by more than 35 of the group, comfortably seated on bales of spread-out hay. Nineteen mounted riders were escorts.

Many club members had been busy during the day building eight more corrals. Horses stabled at Mountain View total 23.

Club members and their teenage youngsters recently spent most of their spare time during a two-week period constructing a new riding ring at the northeast corner of the stable area. The ring will be used primarily for training sessions.

The club held a "fun show" in the CRA ring Oct. 17 with husband and wife equestrians teaming up.

Jan Kreis was awarded the high point trophy of the day and Judy and David Watson were way out front in the "Ma and Pa" boot race. Clyde Donahoo gave the spectators a thrill as he tried to ride with one foot in the stirrup and the other on the ground. Spencley is the new show manager for CRA riding events.

Water and Snow Skiers Combine In One Newly Organized Club

An entirely new year-round Convair Ski Club, combining water ski and snow ski activities into one organization, has been formed by Convair Recreation Association for General Dynamics sportsmen.

Joe Harris, former commissioner of the CRA snow ski group, is commissioner of the newly-organized Ski Club. Harris has directed both water ski and snow ski activities for CRA over the last 15 years.

"We now have some of the finest equipment available and an excellent program set up for the coming winter and summer months," said Harris.

The club owns three speed boats, completely equipped with skis, life belts, ropes and miscellaneous gear. Drivers for the boats are always available and instruction will be given by expert water skiers.

For winter sports the club has a variety of snow skis in different lengths, poles, bongo boards, hot waxing equipment. The CRA club will sponsor a physical fitness program, ski instruction, and a dry land ski club, free for GD people.

Ski trips and meetings are co-sponsored with Don Diego Ski Club.

First Ski Club meeting will be next Tuesday (Nov. 2) at the Catamaran Inn, Mission Blvd., at 8:30 p.m.

Luggi Foeger of Badger Pass will talk and show a movie on skiing in Yosemite. A weekend of skiing in Yosemite National Park will be given as door prize and reservations taken for coming ski trips. Speed boats and ski equipment will be displayed.

The dry land ski club will start Nov. 7 and continue the next two Sundays, Nov. 14 and 21, at the Conference Bldg. in Balboa Park. Harris will instruct.

Other upcoming activities are the annual Sno Ball Saturday, Nov. 13, at Hilton Inn, Pacific Hwy., (former OceanHouse); Thanksgiving weekend ski trip Nov. 25-28; swap meet Dec. 1, CRA Clubhouse auditorium. Ski trips to Mammoth also are planned for Dec. 4-5 and over New Year's weekend.

For information and details call Harris at his home phone, 284-0278.

Adventurers Join Sierra Club For Joshua Tree Jaunt

Adventurers have three important events on their calendar—hiking, kayaking, and a special slide showing of Western national parks.

This weekend (Oct. 30-31) the CRA group will join the San Diego Chapter of the Sierra Club as guests of the Audubon Society on a trip through Joshua Tree National Park.

Joe Quijada is taking last-minute reservations by phone, ext. 4068, Kearny Mesa, or home phone, 284-0883.

All club members, and other General Dynamics people, interested in watching expert kayaking, may attend the Southern California Canoe and Kayaking Championship in Los Angeles, Nov. 6.

The meet will feature one and two-man canoe and kayak competition and demonstrations by members of the Olympic team.

Jim Moore, ext. 746, Kearny Mesa, may be contacted for details.

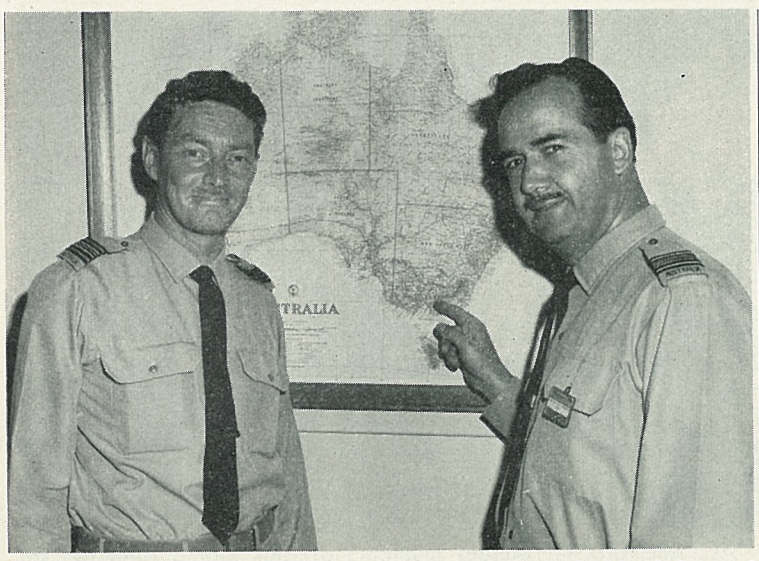
A slide program, "Western Wonderland," will be open to the public at the club's next meeting on Nov. 17 in the CRA auditorium, 8 p.m.

Shells at $2.50 a Box On Sale Through Club

General Dynamics people may purchase 12-ga. shotgun shells at nearly a third off regular prices through the CRA Gun Club.

Discount price for a box is $2.50, including tax.

The shells are high base, plastic, shot size 6 and 7½. They are on sale at Gillespie Field Range Sunday mornings and Wednesday evenings, regular shoot times.



GREETINGS — Squadron Leaders Norman T. Smith, left, and Owen Philpot, members of Australian Embassy's Air Attache staff, will be stationed at Fort Worth division for next three years.

Good Salesmen

Affable Aussies Are Vanguard Of More to Come From 'Under'

Australia's population has zoomed from 7 to 11 million since World War II, and the boom continues full tilt.

Next to U. S. citizens, Australians fly more and drive more cars per capita than any other people. They're also the "world's greatest home owners."

Squadron Leaders Owen Philpot and Norman T. Smith possess countless such facts about their country. And they'll pass them on with Chamber-of-Commerce-like fervor.

They're members of the Australian Embassy's Air Attache staff and will be stationed at Fort Worth division for about three years as liaison officers, coordinating purchase of 24 F-111s from the U. S. government.

Philpot heads the technical team, while Smith is handling supplies. They'll be joined next year by about 30 specialists of the Royal Australian Air Force who will be here at least six months.

The affable Australians are headquartered in the northwest corner of the Cafeteria Building (ext. 4624 and 4629).

Both men brought their families, arriving in time to register their children in school.

"It was a bit of a bad deal for the kiddoes," Philpot said. "Their school vacation is usually from December through February, so that means no vacation this year."

Philpot has two school-going youngsters, while two of Smith's four children are enrolled.

Philpot is from Melbourne. When he left Canberra, the Australian capital, in August, the temperature had dipped to 18 degrees, and four inches of snow covered the ground! It was 100 degrees when he stepped off the plane in Texas!

Smith's home is in Sydney, which, like the rest of Australia, is booming.

"As an example of the labor shortage," he said, "one edition of the Sydney newspaper—regular size—carried 30 full pages of help-wanted ads recently."

The obvious pride they take in their country—and their encyclopedic knowledge—makes the Australians formidable salesmen.

As a matter of fact, they're ordering some short documentary films about various aspects of Australian culture—cities, education, geography, etc.—which they plan to show on request.

No doubt, they'll tell you proudly, things are looking up for the people down under.

Doyle of Fort Worth Division Will Keynote SAVE Conference

General Dynamics men have leading roles in the 1965 Western Colloquiam of the Society of American Value Engineers (SAVE) which will be held in San Diego next Monday (Nov. 1) at El Cortez Hotel.

C. W. Doyle, cost reduction and value control administrator at the Fort Worth division, will keynote the one-day conference. Theme for the meeting is "Exploring the '65 Dollar Question."

Other GD speakers and moderators, all from Convair, are A. T. Wood, chief of contracts; R. N. Babcock, chief of supplier management; W. E. Magnuson, chief of special projects in reliability control; Sam Petcher, senior reliability engineer; Earl Williams, tool engineer.

H. P. Williams of Convair is general chairman.

Others from GD serving on the planning committee are Lloyd Curtis, SD Chapter president; E. D. Heller, director of programs; Warren Ridge, director of arrangements; Wayne Turner, technical sessions chairman; Everett Lindem, visual aids chairman, all of Convair; and Saul Lepen of Electronics-SD, facilities chairman.

S-C 4400 in Operation At Business Display

A Stromberg-Carlson S-C 4400 Document Recorder is in operation this week at the 7th annual Business Equipment Exposition in New York City.

S-C customer engineers from the corporation's Data Products operation in San Diego where the S-C 4400 was developed are R. E. McClure and Paul Tyler, in charge of equipment throughout the showing. Marketing representatives are H. W. Holmerud, H. G. Cooper, M. H. Rice, W. B. Grawe, and H. B. Cody.

'Terrain Following Radar' Radomes Tested in 'Dead Room' at San Diego

Pre-production radomes of Electronics division's Terrain Following Radar units now are undergoing measurements within the San Diego facility's strange "dead" room which played a large part in their development.

The "microwave anechoic" room, in which radomes fabricated for Electronics' ground-following airborne radar systems are being checked, was used during initial design and development of TFR antennas and radomes. A research and development tool, it is currently in use for research on other types of antennas.

The 11x24-ft. room is purposely arranged to absorb microwave or radar energy, but it also effectively absorbs sound and light. In fact, photographers must use all their skill to bring enough light within the grey cavern-like area to show the interior. Walls, floors, and ceiling, with the exception of a skylight and a window directly opposite the test setup, are lined with squares of specially treated and shaped foam plastic absorption material.

This material is designed to give no, or at least very low, reflection of microwave energy so that the room behaves as nearly as possible as if there were no walls present, explained R. M. McIntyre, manager of Electronics research and development laboratories.

"Actually we have simulated the same conditions as if the radomes were mounted in 'free space,' or, in other words, on planes in flight, without interference from other objects," he continued. "Thus, we are able to determine if each radome meets design requirements."

The fiber glass and epoxy radomes which cover the antenna units must be held to close tolerances. Any deviation of composition or thickness of the radomes could interfere with the radar's effective performance.

Each radome fabricated at the San Diego operation is evaluated for its effects on antenna side lobes, or extraneous energy patterns outside the main beam; beam deflection; and loss of signal.

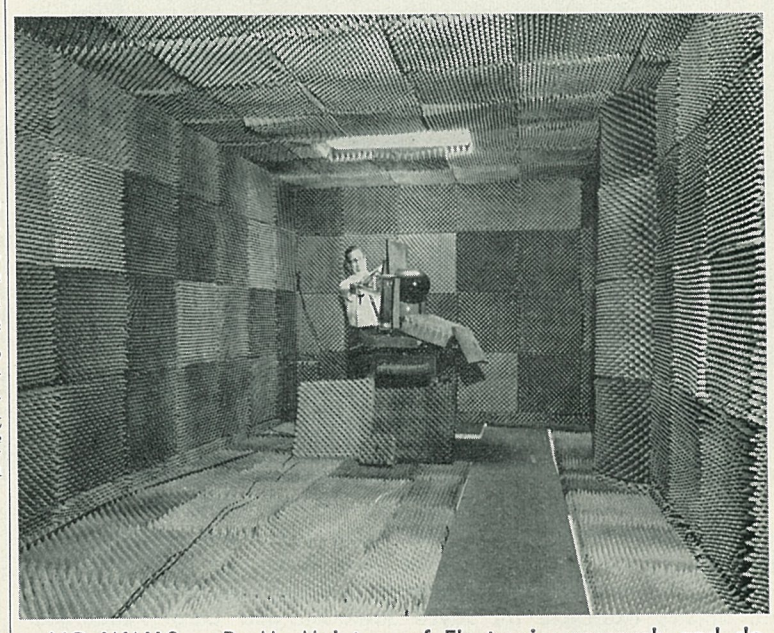
During testing, data is first recorded from the antenna itself which acts as a receiver for signals transmitted through the microwave source "porthole" at the end of the room. Then, for comparison, the same tests are run with the radome in place over the antenna to determine differences, if any, in performance.

Boresight shift, or tilting of the antenna beam by the radome, is measured by means of a special fixture commonly called a "null seeker." This device measures deflection or tilt of the antenna beam after it passes through the radome.

Transmittance of the radar signal when the radome is in position over the antenna also is measured to be certain that there is no attenuation, or loss of signal by the radome.

During these checkouts antennas and radomes are positioned on a remotely controlled turntable. Squares of the absorption material, in various sizes, are placed as necessary on and about the turntable to eliminate reflections from the fixture.

"We have had most satisfactory results from our current performance tests," said McIntyre. "So far, a high percentage of the radomes are meeting all requirements."



NO WALLS — R. M. McIntyre of Electronics research and development laboratories at San Diego makes adjustment on Terrain Following Radar antenna within radome under checkout in microwave anechoic room "deadened" with absorption material to provide same conditions as if units were in space — mounted on planes in flight.

Techniques Tried Out in Forming Metal as Valuable as Gold

A new super clean "white room," opened last week in Convair's Bldg. 5 at the Kearny Mesa plant, is equipped with cutting and forming machines to fabricate beryllium, one of the new exotic space-age metals.

Beryllium costs about the same as pure gold but it has advantages more valuable than gold to Convair's payload and reliability-conscious space programs.

Its chief advantages are that it weighs a third less than aluminum and maintains high strength at extreme high temperatures.

Special forming and cutting techniques must be developed for it. Its vapors, dust and chips are toxic and are a hazard to personnel working with it unless stringent safety precautions are followed.

A central suction system keeps the room under negative pressure (a slight vacuum) and suction outlets at each machine whisk away the toxic beryllium vapors, dust and chips. Special filtering devices collect these materials. The chips will be salvaged and sold back to a rolling mill and the remainder will be disposed of in a special desert disposal area.

Frequent air samples are taken to protect personnel. Employes working in the room wear protective coveralls, shoe covers and gloves.

Initial studies being conducted by Dept. 491 involve hole drilling, edge trimming and forming of beryllium.

A heated-die stretch press, designed by George I. Baxter, senior manufacturing development engineer in Dept. 491, and built by the department, will be used to form the metal at temperatures above 1,000 degrees into "compound-curved skins" for use in aerospace projects.

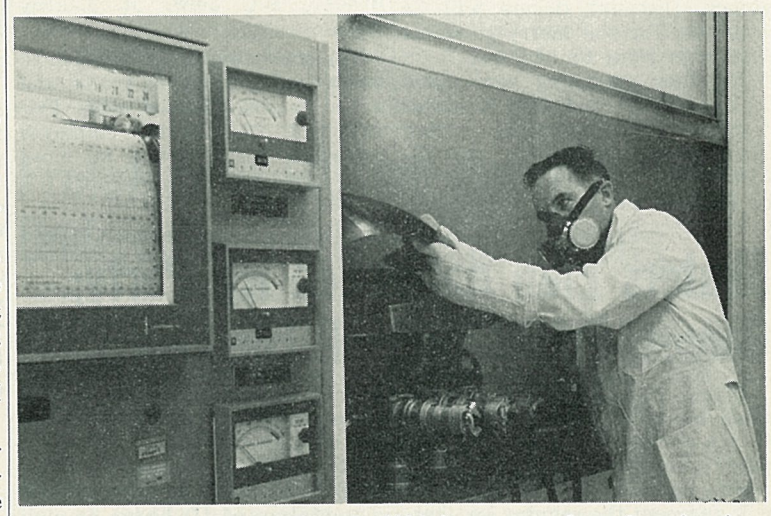
The press is covered by a hood equipped with a suction duct to prevent contamination. A special pyrometer controller and power supply mechanism for the press was built by Honeywell to Dept. 491 specifications.

A Do-All saw is being used in evaluating effectiveness of various types of saw blades at various sawing speeds, etc. An electro-chemical machining drill press and a Tornetic (controlled energy) drill press also are being used.

J. C. Duffy is manufacturing development supervisor and Baxter is project leader. Personnel assigned also include Tom D. Wright and C. P. Rolla.

Specifications for the "white room" were developed by plant engineering, the safety section of industrial relations and the manufacturing development section of production engineering.

Beryllium re-entry heat shields on the Project Mercury capsules weighed 350 pounds. Approximately 1,350 pounds of steel or 1,750 pounds of copper would have been required for an equal amount of heat absorption.



EXPENSIVE METAL — Tom D. Wright, a manufacturing development technician in Dept. 491, uses heated-die stretch press in Bldg. 5 "white room" at Kearny Mesa. Beryllium, to be formed on the press, costs about the same as pure gold!

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

J. P. RIMER from Pomona division to International Group as European representative based in Paris. With Pomona division since 1954, has headed division's European Operations last three years, most recently located at Bremen, Germany. BS from Washington and Jefferson College and MS from Rensselaer Polytechnic Institute.

WILLIAM C. GILGER (1939) from Convair to Marine Technology Center, San Diego; **JACK R. BURTT** (1961) from Convair to Corporation's Los Angeles office; **DARRELL D. LAWYER** (1956) from Convair to Ardmore; **SEDGWICK T. WOOD** (1940) from Convair to Marine Technology Center; **JAMES E. WORTHY JR.** (1945) from Ardmore to Fort Worth.

RICHARD C. STETTLER (1953) from Convair to Marine Technology Center; **WILLIAM B. BARKLEY** (1943) from Convair to Marine Technology Center; **JOHN G. SHARP JR.** (1957) from Fort Worth to Corporation's Dayton office; **ARTHUR S. HUEBNER** (1955) from Convair to Marine Technology Center; **ALAN C. CONOLLY** (1956) from Convair to Marine Technology Center; **WILLIAM B. PIEPER** (1956) from Convair to Fort Worth.

DAVID B. DEWEY JR. (1962) from Convair to Marine Technology Center; **JOHN M. STOFFEL** (1954) from Convair to Ardmore; **RICHARD M. HOPKINS** (1942) from Convair to Marine Technology Center; **THEODORE E. SLADEK** (1954) from Convair to Marine Technology Center; **SALVATORE J. VENEZIANO** (1964) from Stromberg-Carlson, San Diego to Convair; **CHARLES P. RAINS** (1964) from Convair to Marine Technology Center.

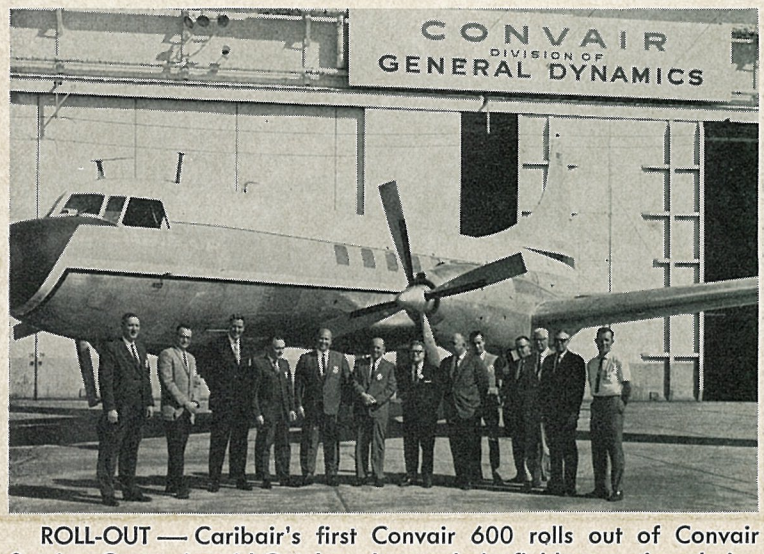


RECOGNITION — Craftsmanship awards were presented by Jack L. Bowers, Convair general manager, last month at Plant 19 and Lindbergh Field. At left above he speaks to Plant 19 machine shop, winner for third consecutive month. At right he appears before sheet metal at Lindbergh, scoring second consecutive win. Bowers personally handed out ZD pins to individuals at Plant 19. Each Dept. 715 person received the silver "C" emblems for department's three wins.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 23 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, November 10, 1965



ROLL-OUT — Caribair's first Convair 600 rolls out of Convair Service Center in mid-October. It now is in field operations being readied for delivery. In photo, from left, are Convair's Dudley Digges, S. J. Harris, P. M. Prophett, C. L. Meador, E. J. Huntsman, J. H. Famme, Joe Sierra, Caribair vice president of operations, L. J. Bordelon, Peter Mouritz, G. D. Clark, Charles German, Corporate director of contract administration, J. S. Boaz, L. F. Lau.

Caribair 600 Delivery Expected This Month

First Convair 600 for Caribbean Atlantic Airlines, Inc., rolled out of Convair modification in late October to be readied for delivery this month.

The airline's first converted Convair 600/440 turboprop version, powered by Rolls-Royce Dart engines, now is in field operations at the San Diego plant.

Second of Caribair's Convair 340s to be converted to the new Convair 600 version is now in modification at the Convair Lindbergh Field plant and the third is due in the middle of this month.

Altogether, nine of Caribair's Convair transports will be converted to the Convair 600 version with modification to extend until summer of next year.

Also in work at the Convair Service Center are one Hawaiian Airlines 600/440 and a 600/240 for Central Airlines.

Salvage Schedule Set For Convair

Kearny Mesa plant salvage yard will be open to employe sales this coming Saturday (Nov. 13) and Lindbergh Field plant yard on the following Saturday (Nov. 20). Hours are from 8 a.m. until noon at both sites.

Convair salvage yards at both plants will declare a holiday on the Saturday after Thanksgiving since the division will be closed for four days through Thanksgiving Day until the following Monday.

★ ★ ★

Due to lack of a sufficient variety of desirable material, it is no longer practicable to operate the store on a weekly basis, alternating between the plants. After Nov. 13 the Kearny Mesa store will be closed and the store at Lindbergh Field will be open every other Saturday as a general policy.

Hurry! Hurry! Deadline Near In ES Contest

Convair idea folk have only this week and next to submit cost saving suggestions that could win trips for four to Vandenberg AFB to witness an Atlas firing.

Deadline in the contest is Nov. 19. Suggestions received after that date will qualify for normal suggestion handling, but not for the Vandenberg trip contest.

Meanwhile, suggestion program personnel report an up-trend in ESs and coordinators have been briefed on the need for rapid handling.

A period of intensive investigation and implementation of approved suggestions is planned following the contest deadline. Winners will be anounced about Feb. 1.

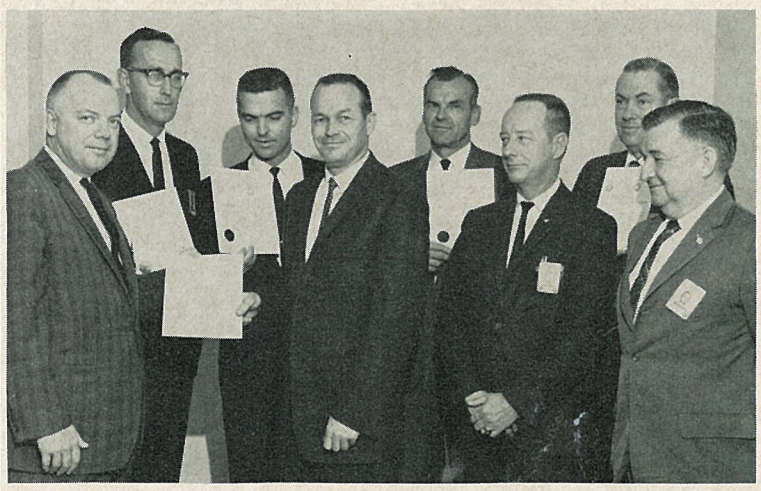
Submit an idea that will save money—and maybe win a trip!

Five Engineers Commended For Money-Saving VE Ideas

Five Convair engineers last week received Certificates of Commendation for Value Engineering suggestions approved during a three-month period that saved more than $165,000.

They were K. T. Younghusband, A. P. Traskel, D. G. Wilson and J. E. Leib of the Kearny Mesa plant and W. L. Simonson of Vandenberg AFB.

(Continued on Page 2)



COMMENDATION — W. W. Fox, Convair director of product design, hands Certificate of Commendation for Value Engineering suggestion to K. T. Younghusband as J. E. Benson and T. M. Hemphill, front row right, look on. Others receiving certificates, back row, are W. L. Simonson, J. E. Leib, A. P. Traskel and D. G. Wilson.

Subcontracting Work Extended

Convair division of General Dynamics has received contracts totaling around $2½ million from Douglas Aircraft Co., Inc., and from DeHavilland Aircraft of Canada for tool design and some fabrication of two components for the updated version of the DC-9 jetliner, now under production at Douglas' Long Beach plant.

The orders, awarded late last month, bring to $4 million the work Convair has been contracted to do on Douglas planes. Convair engineers have been working on 32 engineering packages and services for DC-8 and DC-9 jet transports the last six months. Engineering assist will extend until June of next year, and totals $1½ million.

Under the recently-awarded Douglas contract, Convair will fabricate 24 service doors and jam panels for Eastern Airlines' DC-9s. The doors, designed at Convair, will be installed opposite the passenger doors to allow complete food units to be wheeled into the planes' galleys.

Tool manufacturing and fabrication at Convair will extend until early 1967. Delivery of the first jam panel will be in January, 1966, and first door in February. Installation will be done at Douglas.

DeHavilland, a Douglas subcontractor, has contracted for Convair to do work on the DC-9 triple-slotted flap, under three basic contracts.

Convair will design and manufacture flap tools; manufacture six ship's sets of detailed flap parts and order raw material for fabrication of detailed parts at DeHavilland's plant at Malton, Ontario; and, provide material services which include the placing of DeHavilland purchase orders for flap tools. Completion of work at Convair is scheduled for next April.

Engineering design of the total flap was accomplished at Convair under the engineering design contract.

Max Yale is directing Convair's Douglas assist programs as program manager.

Martin's Air Charter Buys Kit For 600 Mod.

Martin's Air Charter of The Netherlands is the first European operation to purchase a Convair 600 modification kit from Convair division of General Dynamics for conversion of a Convair-Liner to turbojet power with Rolls-Royce Dart engines.

Contract for a 600/440D kit was signed late last month by J. M. Schroder, managing director of Martin's Air Charter. The airline is based at Schiphol Airport, Amsterdam, and operates a fleet of 13 aircraft, including the one Convair 340 due for conversion. The airline was founded in 1958 and in 1964 KLM Royal Dutch Airlines purchased a 25 per cent financial interest in the operation.

The 440D kit will be delivered the first of February, 1966. Installation will be done by Aviolanda of Holland, major aircraft industry. The converted plane is due to go into service by next April.

Convair already has on order 52 modification kits for domestic airlines. Trans-Texas Airways, Inc., has ordered 25; Central Airlines, Inc., 10; Caribbean Atlantic Airlines, Inc., (Caribair), 9; and Hawaiian Airlines, 8.

$1 Turkey Dinner Slated on Nov. 23

Turkey will be on the menu Tuesday (Nov. 23) when Prophet Co. stages its usual Thanksgiving dinner in Convair cafeterias.

Diners will get turkey and dressing, salad, mashed potatoes, giblet gravy, vegetable, cranberry sauce, roll and butter, dessert and beverage, all for $1, Charles Borgatta, regional manager of Prophet Co., said.

Product Show Will Be Friday

Final showing of suppliers' products for the year has been scheduled for 1 to 3:30 p.m. Friday, Nov. 12, in the CRA building as part of the Convair value control program.

About 25 firms with products ranging from raw materials to the latest developments in electro-mechanical equipment will have displays.

"This will give everyone who is concerned with the selection of materials, processes or components an opportunity to see these new developments," David Harris, value engineer in material Dept. 845-3, said.

"An interested person can see the displays in an hour or less," Harris said. "If improvement of a company product results, the time will have been well spent."

Suppliers' products showing also coincides with the last Value Engineering Workshop of the year now in progress for selected personnel.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Nov. 1 and Nov. 15.

Thirty-year: Dept. 015-0, M. J. Willows; Dept. 143-2, R. L. Sattro; Dept. 401-5, W. V. Tisdale; Dept. 511-4, J. C. Hoover.

Twenty-five-year: Dept. 019-0, D. R. Wilson; Dept. 057-0, F. N. Greif; Dept. 110-0, R. E. Bechtol; Dept. 251, R. L. Lewis, C. T. Neff; Dept. 400-2, M. M. Hill; Dept. 401-5, F. W. Walrod; Dept. 420-3, R. R. Sodomka; Dept. 509-1, Herschel Hise; Dept. 756-0, H. J. Beshansky; Dept. 978-3, A. T. Landry.

Twenty-year: Dept. 143-4, E. J. Bourgeois; Dept. 300-4, A. J. Gagliardo, R. E. Rose; Dept. 401-0, L. W. Scott; Dept. 531-2, H. R. Picotte; Dept. 576-1, F. W. Fitch; Dept. 756-0, B. M. Gipson.

Fifteen-year: Dept. 019-0, F. O. Vogt; Dept. 041-0, E. M. Gatlin, R. J. Norman; Dept. 130-1, E. J. Jessen, E. E. Riley; Dept. 132-1, T. A. Szalinski; Dept. 191-0, R. W. Young; Dept. 193-3, H. C. Millies, H. J. Woods; Dept. 223-0, Ruth H. Ortega; Dept. 401-4, Rosalie B. Buckman; Dept. 452-0, F. W. McGovern; Dept. 503-0, W. S. Evans; Dept. 509-1, B. J. Banke; Dept. 511-2, C. S. Dickerson Jr.

Dept. 524-0, Mary Ann Downey; Dept. 545-3, W. S. Cronan III; Dept. 644-2, D. S. Beight; Dept. 659-0, K. R. Miller; Dept. 672-0, J. W. Ball; Dept. 731-0, L. O. Stackhouse; Dept. 733-0, V. R. Bibb; Dept. 756-0, Mary L. Ludwig, J. W. Reynolds; Dept. 758-0, G. F. Eggert Jr.; Dept. 761-0, J. O. Berry, R. L. Buckman; Dept. 780, J. D. Dows, W. S. Wilson; Dept. 839-2, G. L. Selesko; Dept. 851-3, R. W. Zastoupil; Dept. 971-5, Charles Wardinski; Dept. 972-0, J. W. Brett; Dept. 979, J. E. Herrell, J. L. Johnson.

Ten-year: Dept. 041-0, R. E. Kuske; Dept. 149-1, J. S. Schwab; Dept. 191-0, Dana Stevens; Dept. 193-2, Dorothy G. Locke; Dept. 201-0, L. R. Blackburn; Dept. 300-0, Ramona D. Joyce; Dept. 401-3, J. B. Sardina; Dept. 454-0, R. C. Christopher, W. C. Darland; Dept. 492-0, T. E. Johnson; Dept. 541-0, J. J. Letzring; Dept. 553-3, C. J. Hitney; Dept. 571-1, C. F. Jacobs, M. R. Mortensen.

Dept. 576, G. L. Bickel, A. M. Moore; Dept. 584-2, F. D. Postula; Dept. 586-2, J. R. Cummings; Dept. 644-1, L. R. Nowlin; Dept. 654-0, A. W. Torrible; Dept. 673-0, Betty M. Ingbretsen; Dept. 733-0, A. P. Johnson; Dept. 756-0, J. T. Ater, J. E. Rogers; Dept. 758-0, R. P. Goodin; Dept. 780, A. W. Clark, J. V. Hartman, E. C. McAloney; Dept. 835-6, C. D. Anderson, G. B. Reeves, R. T. Rowe; Dept. 951-5, T. D. Shipler Jr.; Dept. 952-1, J. T. McFarland Jr.; Dept. 954-4, Ronald Kyger; Dept. 955-0, G. L. Whaley; Dept. 958-7, B. S. Wallach; Dept. 964-2, B. J. Moreno; Dept. 972-0, H. J. Oakes.

STROMBERG-CARLSON

Fifteen-year: Dept. 8325, H. G. Cooper.

Awards

CONVAIR

Employe Suggestion awards approved during period ending Oct. 27.

Dept. 001, J. H. Hammer (two awards); Dept. 002, R. C. Beezley, R. E. Blanco, E. Fountain (three awards, final installment); Dept. 015, W. J. Bullock (final installment), Mary H. Ellis (final installment); Dept. 019, A. Duplat, C. Fenstermacher (final installment), G. G. Grantham, P. A. Piraino, R. W. Talmage.

Dept. 024, R. E. Cloud, H. F. Horan, J. P. Kany; Dept. 029, B. C. Lovelady, D. R. Wilson; Dept. 031, F. S. Bender, R. E. Bowman; Dept. 041, F. J. Hammack (final installment), L. F. Pendarvis, C. E. Rice (final installment); Dept. 048, G. G. Webber (final installment); Dept. 066, R. L. Gibson; Dept. 123, J. M. Lizarraras, R. J. Robinson (two awards, first installment), G. D. Rush (first installment).

Dept. 130, Gus Hodges; Dept. 140, E. E. Chavez, G. W. Kocontes (two awards); Dept. 141, S. R. Locke; Dept. 142-1, D. Hanrahan; Dept. 143, M. Purcell, M. Tuskes (final installment); Dept. 146, J. Silverstein (final installment); Dept. 147, F. L. Cornish; Dept. 191, P. R. Grokoest (final installment); Dept. 250, G. S. Brooks (first installment).

Dept. 401, H. Tieszen (final installment); Dept. 405, R. L. Vincellette (final installment); Dept. 410, J. B. Murphy (final installment); Dept. 576, J. D. Hamner, P. J. Robbins; Dept. 644, J. P. Nichols, S. K. Peters (final installment); Dept. 732, J. W. Gordon; Dept. 733, J. Ortiz; Dept. 758, V. A. Bentley (final installment), L. Tocco (final installment).

Dept. 759, N. B. Byrd (final installment), G. D. Lundquist (final installment); Dept. 763, C. W. Neal; Dept. 818, M. H. Whitney; Dept. 830-0, M. M. Lowry; Dept. 832-3, R. A. Stahl (final installment); Dept. 839-2, F. Nichols Jr.; Dept. 957-0, J. P. Giordano.

Retirements

CONVAIR

EDDY—W. F., Dept. 330-2. Seniority date Sept. 19, 1955, retired Oct. 10.

ENGRAM—Joseph B., Dept. 170-9. Seniority date April 18, 1957, retired Oct. 29.

FOX—Henry S., Dept. 151. Seniority date Feb. 18, 1957, retired Oct. 3.

GRIMES—Rexford B., Dept. 715-0. Seniority date June 15, 1940, retired Oct. 29.

GROSS—Archie F., Dept. 251-4. Seniority date Sept. 30, 1948, retired Oct. 30.

HOLMES—Marcelle, Dept. 278. Seniority date Oct. 20, 1959, retired April 19.

LAFFOON—Frank D., Dept. 110-0. Seniority date May 10, 1950, retired Oct. 22.

LEONARD—W. Francis, Dept. 210-0. Seniority date Oct. 2, 1950, retired Sept. 30.

MAGNANA—Inez B., Dept. 839-2. Seniority date Jan. 4, 1951, retired Oct. 29.

OPPERMAN—Elizabeth B., Dept. 223-1. Seniority date Jan. 30, 1952, retired Oct. 29.

POUND—Paul F., Dept. 420-6. Seniority date Feb. 19, 1951, retired Sept. 28.

ROLLBERG—Charles A., Dept. 761-0. Seniority date Aug. 27, 1940, retired Oct. 29.

SCHROEDER—George A., Dept. 819-0. Seniority date Dec. 10, 1957, retired Oct. 8.

STOCKDALE—Leonard N., Dept. 250-5. Seniority date Dec. 13, 1950, retired Oct. 29.

VAN DUSSEN—Adrian, Dept. 403-1. Seniority date May 18, 1957, retired Oct. 29.

WILLIAMS—Gerald H., Dept. 25-5. Seniority date Aug. 27, 1940, retired Oct. 17.

WULF—James T., Dept. 313-0. Seniority date July 23, 1957, retired Sept. 23.

In-Plant Training

CONVAIR ORIENTATION

NEW EMPLOYES—Educational services staff. Lindbergh Field, ext. 491. One hour, Tuesday, Nov. 23, Dept. 300; 7 a.m. and 3:30 p.m. Bldg. 14 auditorium. Lindbergh Field personnel, one hour, Tuesdays, Nov. 16 and Nov. 30; 8 a.m. and 4:30 p.m. Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

VALUE ENGINEERING WORKSHOP—Everett Lindem, ext. 1931, Kearny Mesa. Forty hours, Nov. 8-19, 8 a.m. to noon. CRA building. Enrollment closed.

PRODUCT IMPROVEMENT — Will Weidenfeller, ext. 1931, Kearny Mesa, Dept. 780-1. Nov. 2, 3, 4, 9, 10, 11; Dept. 780 Conference Room. Enrollment closed.

SUPERVISION SEMINAR NPC 200-4—Harry Miller, ext. 1931, Kearny Mesa. Ten hours, Nov. 8-12; 11:45 a.m. to 1:45 p.m., Room 9, Bldg. 17, Kearny Mesa. Enrollment closed.

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks, Kearny Mesa coordinator, Harry Miller, ext. 1931; Lindbergh Field coordinator, Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training) — Eight hours per day, 26 weeks, Bldg. 3, Lindbergh Field coordinator, Wayne Turner, ext. 491.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly 7 a.m.-3:45 p.m.; Room 10, Bldg. 17, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

BLUEPRINT READING — Bill Sherman, ext. 491, Lindbergh Field. Oct. 25 to Jan. 26. Monday and Wednesday, 3:45-6:15 p.m., Bldg. 14, Room 5.

CITY COLLEGE SPRING COURSES—Send AVO to Dick Forrest, Zone 130-30, Kearny Mesa. Give name, department, extension, courses interested in. Classes will be held one night a week usually 5-8 p.m.

Deaths

CONVAIR

ANGELO—Joe M. Dept. 733-0. Died Oct. 25.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Japan Safety Team at Convair

A 16-member study team from the Japan Industrial Safety Association visited Convair's San Diego facilities Friday (Oct. 29) for a meeting with safety officials and a briefing on the company's industrial accident prevention programs.

Members of the team are Tadashi Ikegami of Dowa Mining Co., Motoo Ishiguro of Sumitomo Metal Mining Co., Teizo Kagaya of Nippon Mining Co., Keiichi Kubo of Toyota Motor Co., Kunio Minamizaki of Ishikawajima-Harima Heavy Industries Co., Toshio Murotani of Osaka Gas Co., Sukehiro Nagoshi of Toyo Engineering Corp. and Kintaro Nakamoto of Nakamoto and Co.

Also, Shigetaka Niki of Hitachi Shipbuilding and Engineering Co., Yoshimasa Okugawa of Okugawa Shoten Co., Takeshi Oyanagi of Nippon Light Metal Co., Fujio Sumitani of Mitsubishi Oil Co., Toshikatsu Wakimizu of Nippon Power Safety Device Manufacturing Co., Ko Yamamoto of Okure Kosan Co., Jisei Sumiya of the Labor Standards Bureau of the Ministry of Labor and Tsunehiko Takahashi, an official of the Industrial Safety Association.

The team is on a four-week study tour in the United States. Koichi Kozuchi of Pacific Travel Service, the team's tour conductor, also is to be present for the Convair visit.

When telephoning, never mind the weather. Get to the point. Telephone time costs money.

Five Honored For VE Ideas

(Continued from Page 1)

W. W. Fox, director of product design, presented the awards and complimented the group on their "exemplary initiative and performance." He pointed out that similar action by others could save millions.

Value control projects approved throughout the division during the third quarter of the year will save more than $2½ million.

Younghusband was credited with $94,200 in savings resulting from elimination of no-longer-necessary weldments on missile tanks. Traskel saved $39,500 by recommending elimination of instrumentation reinforcements no longer needed for transducer support.

Wilson achieved a $14,840 saving for suggesting removal of three thrust-chamber transducers since data from them was no longer necessary for the customer.

Simonson saved $10,228 for a suggestion that standardizes and cuts paperwork for refurbishing of launch pad equipment after a launch. Eighty manhours and 20 inspection and rejection slips previously required have been cut to eight hours and one permanent planning card.

Leib's suggestion resulted in an undetermined amount of savings and eliminated unnecessary inspection of diodes.

T. M. Hemphill, chief of value engineering in Dept. 561-0, said suggestions submitted by the five were unique in that the Company and the customer will share savings almost equally.

J. E. Benson, a value engineer in the department, assisted in evaluation and implementation for maximum savings in a minimum of time while maintaining needed reliability.

Hemphill said many other engineers have submitted VE suggestions recently that are now under review.

He said there is no "red tape" in initiating VE savings projects or of getting VE assistance when the engineer has a well-thought-out idea for cost reduction.

"All the engineer has to do is phone my office, ext. 2917 at Kearny Mesa, and his idea will be evaluated and action initiated," he said.

"Supervisors at all levels are expected to implement acceptable money-saving value engineering suggestions as practical," he said. "Supervisors who are not familiar with this new approach to design are urged to attend a VE workshop."

Stromberg-Carlson Mgt. Club to Meet

Stromberg-Carlson Data Products Management Club members will hear General Manager Carl V. Shannon and his staff outline future plans and projects of the San Diego facility at a "Brass Tacks" meeting tomorrow night (Nov. 11).

The memberhip dinner will be at Fisherman's Wharf, 2845 Garrison St., Point Loma. Social hour is at 5:30 p.m. and dinner at 6:30.

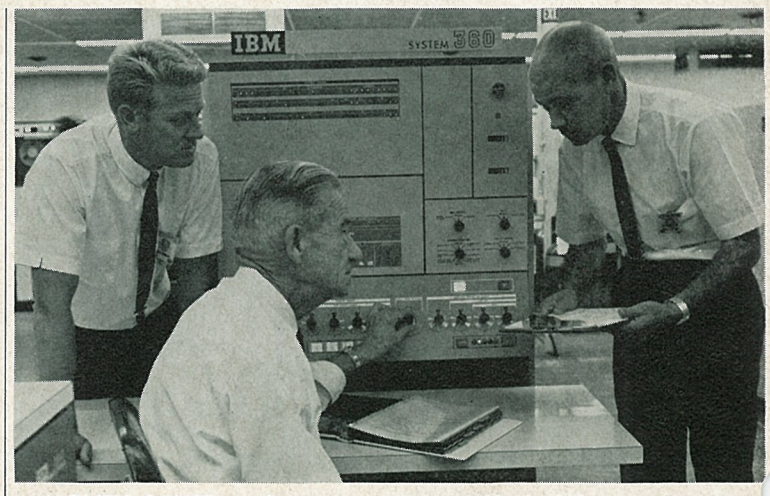
Besides Shannon, others on the program will be N. J. Barnes, controller; A. H. Wisdom, manager of engineering; J. W. Swank, manager of industrial relations; J. H. Redman, manager of marketing, and I. L. Kemper, manager of operations. A question and answer period will follow brief talks.

"Man-of-the-Month" will be announced and the usual raffle held.

S-C and Electronics Wives Meet Tomorrow

Wives of Stromberg-Carlson and Electronics employes will hear a talk and demonstration by a representative of the Old Town Candle Shop at tomorrow's (Nov. 11) luncheon at Romaine's Restaurant.

Social hour begins at noon and luncheon at 1 p.m. Mrs. Charles Barber and Mrs. Fred Walz are co-hostesses.



MONEY SAVER — Computer operator Merle Wyatt puts one of three new IBM System/360 Model 30 computers through test runs as Clifford Dismuke, left, and George Jacob check results.

Three New Computers to Save $6,000 Each Month in Rentals

One of three IBM System/360 Model 30 computers to be installed before the end of the year in Convair data processing operations, Dept. 101-2 in Bldg. 4 at Kearny Mesa, recently went into operation.

George Jacob, general supervisor for machine operations, said the new 360-30 machines will do the same amount of work as IBM 1460 small-scale computers being replaced but cost of leasing will be considerably less.

"The three new computers will save us more than $6,000 a month in rental," he said.

A. E. Andress is chief of data processing operations and Clifford D. Dismuke is supervisor of business computer operations.

The new 360-30 equipment will handle both input and output of tape and punched cards and output of printed reports from both tape and cards in support of the large scale IBM 7074 and 7010 computers.

One of the three new computers being obtained will have three tape drives and two printers. This will allow processing of three jobs simultaneously.

Computers of this type being obtained before the end of 1965 by Convair and General Atomic divisions will be among the first in use in industry.

Convair also is to obtain a new IBM System/360 Model 50 computer to replace the two large-scale computers now in use.

Compare Notes

Engineers Meet on Own Time For State-of-Art Discussion

Two groups of Kearny Mesa engineers—totaling more than 100 men—have been attending informal state-of-the-art meetings on their own time for a half hour one morning each week in an effort to improve both their own knowledge and Company products.

More than 65 engineers from process control and quality engineering meet at 6:30 a.m. each Friday in the Bldg. 2 presentation room.

Another 30 mechanical and electrical engineers from the reliability control failure analysis group meet at 7:30 a.m. each Tuesday morning in the space science conference room in Bldg. 4.

The two programs fall under the direction of R. H. Gilliland, manager of quality assurance, L. S. Franklin, chief of quality assurance, and H. O. Story, senior reliability group engineer. W. G. Lux and Glen Eggen assist with program planning.

Two presentations are given each Friday for the process control and quality engineering group with topic assignments being obtained from other meetings and seminars, technical publications, customer abstracts and NASA reports.



CIRCUIT CERTAINTY — W. W. Wilimek, right, and W. G. Lux inspect film circuit during weekly meeting of process control and quality engineering men.

Presentations given to date have included talks on "Integrated Circuits" and "Manned Space Flight" by Gary Stachwick, "Filament Wound Construction of Pressure Vessels" by William Hollar and "Leak Detection-Fluids and Gasses-Outer Space" and "Nondestructive Testing-Outer Space" by George Wilcox.

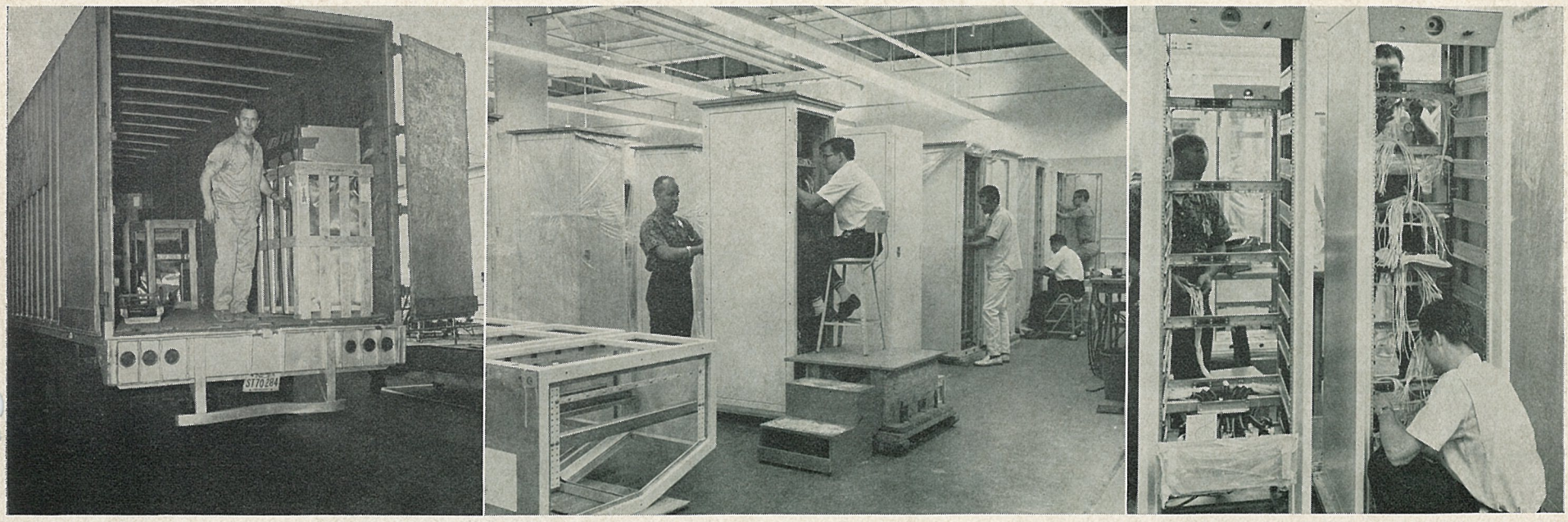
Also, "Researching Data-Standard Library Procedure" by Herbert Livermore, "Design of Experiments" by Robert Woodward, "Activation Analysis" by Robert Bailey and "Infrared Testing of Printed Thin-Film Circuit Boards" by W. W. Wilimek.

The mechanical and electrical engineers last week heard Pat Rygh, manager of space flight operations for Jet Propulsion Laboratories in Pasadena, speak on "Modern Methods of Information Handling for Mission Control." They previously had heard J. P. Silverstein present a paper on "Integrated Circuits" Oct. 19 and Kenneth R. Brown on "Cryogenic Thermometry" Oct. 26.

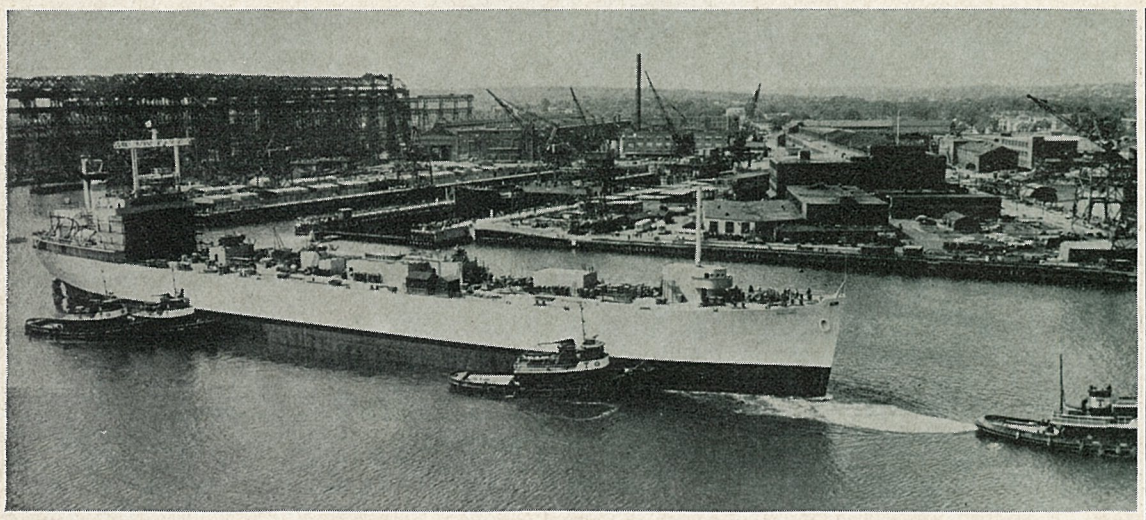
Lux said the meetings for the process control and quality engineering personnel are planned primarily to "create a space-age reliability control data bank and promote better understanding of reliability control data usage in present and future space programs."

Secondary objectives include personnel motivation, sharpening of space interest, improvement of communications, improvement of methods of data research and usage and improvement of group morale.

Eggen said the weekly sessions for failure analysis engineers help keep them up-to-date on new state-of-the-art developments and should help better qualify them for work on new planetary probes and other space exploration hardware.



GOING EAST — In center photo, cabinets for Apollo Instrumentation Ships are assembled and fitted with electronic systems at Electronics division's San Diego facility. From left: Paul Hewey, Tom Eckles, Bob Kier, Bob Perdue, Dwight Barnes. Photo at right is closeup of complicated wiring. In photo at left, truck is loaded for trip to Quincy, Mass. and installation aboard Vanguard, first AIS tracking ship. Electronics division, Rochester, is prime contractor for AIS task.



NUMBER ONE — Vanguard, first of three tankers being converted to Apollo Instrumentation Ships, is shown being floated out of basin at Quincy, Mass. It is currently being fitted out with extensive electronic equipment for tracking spacecraft en route to moon.

Instrumentation Tests Begin on Apollo Ships

Emphasis of Electronics division's share of the Apollo Instrumentation Ships program assigned to the San Diego operation is shifting to Electric Boat's Quincy (Mass.) shipyard as testing begins this month on instrumentation systems going into the Vanguard, first AIS tracking vessel.

Electronics division of General Dynamics is prime contractor for the conversion of three former tankers to instrumentation ships to be part of a global tracking system during manned shots to the moon. Electric Boat division is responsible for ship construction; Convair division, large antenna structures and computer programs; Stromberg-Carlson, telephone and intercommunication equipment. The Navy acts as contract administrator with NASA responsible for deployment of the ships which will be operated by the Air Force.

A task force of 35 Electronics-San Diego engineers, headed by H. L. Copeland, now are onsite at Quincy to do the testing and make design changes as necessary in the San Diego-provided instrumentation systems.

The San Diego-based facility is responsible for six AIS instrumentation systems to be installed on the tracking ships. These systems are: telemetry, command control, central data processing, acquisition and stabilization network, operations control center, and timing. Design, fabrication, assembly of cabinets and the electronic equipment installed within the cabinets is being done by Electronics-SD engineering and production functions. Procurement of vendor-furnished material for the systems also is part of Electronics-SD responsibility.

By the first of October, 139 cabinet assemblies and associated electronic equipment had moved out of the San Diego plant for the East Coast to be integrated into electronic systems aboard AIS ships.

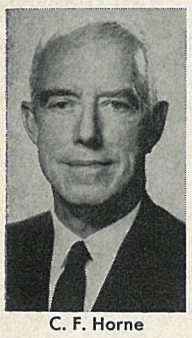
Electric Boat is installing the cabinets and connecting cabling on the ships. Electronics' crews will install the electronic chassis in the cabinets and do the testing.

All electronic fabrication for the first ship is essentially complete and production tasks on equipment for the second and third ships will continue over the next several months, said J. F. Langston, AIS program manager at the San Diego operation. Work has moved as much as two to four months ahead of schedule on many items, since much of the fabrication for all three ship's sets of systems has been carried out simultaneously, he said.

Another task now under way at the Electronics-SD facility is proofing of programs for the UNIVAC 1230 central data processing computer. It is one of three which will be installed, one to each vessel, as the heart of the electronic network to process the vast amount of data collected during Apollo moon shots.

Lifetime of Mental Growth Vital, Horne Reminds IEE Engineers

Improvement in professional performance should be the key factor in planning personal postgraduate growth, C. F. Horne, Pomona division president, emphasized in a speech last month at a meeting of the Institute of Electrical and Electronic Engineers, Foothill Section, in Pomona.



C. F. Horne

Horne spoke to the engineers on the subject, "Continuing Education in a Changing World."

"A truly balanced diet of continued education will look different for each person and each job," Horne said. "Your individual requirements are unique and should be dealt with as such. Remember, it is performance that counts, and individuality."

Horne urged an action program to meet the challenge for personal growth. He listed these basic concepts for use in individual planning:

"Each of us must commit himself, willingly, to a lifetime mental growth program. Without this we inevitably shrink and atrophy.

"Performance, not credentials, will be the yardstick for professional survival and recognition.

"The whole person performs best—even in a technical world.

"Engineers must keep abreast of sociological changes and accept some responsibility for such changes.

"Whatever you plan will be most effective, if it is geared to your own personal performance needs."

No one can take all of the courses or all the opportunities available, Horne cautioned in giving some factors to consider in simplifying planning.

"To some extent, you can visualize your future. New areas for technical change and expansion are known in advance. Likewise, you can usually identify those factors on your job that will be closed out in a year or two. This is a part of the analytical process of narrowing down the educational targets from which you can obtain maximum advantage.

"You probably have a headstart in your ability to learn. You fellows that have been on the job for a few years can readily capitalize on your job experience. The things that you have been doing for a living constitute a great foundation for continued education.

"Now, on keeping up with your non-technical education—there are growth activities both of a cultural and a social nature that you can and should do mostly with your family. These may range from a concert series or travel, to financial counseling, home improvement and community improvement. Such factors provide a foundation of confidence and understanding that free a man's mind to do top flight technical work and to grow with each opportunity.

"There are many community, civic and national activities in which you can experiment and develop leadership qualities while providing a genuine service.

"You are already committed to an active, aggressive life—in truth, the times in which we live have already committed you to a lifetime of continued education. So the problem is really not so hard. It consists of trying to plan effectively within the resources and opportunities that already exist."

Horne urged continuation of formal education, where possible, toward advanced degrees. But he cautioned that no credential has lasting value.

"The history of mankind is full of lessons that teach us not to rest upon laurels or on pieces of paper. Your credentials, and mine, were used as a gate pass to an exciting occupation—but, believe me, that 'ticket' is now punched.

"Without denying the important role of professional certification, let us recognize that it is concerned with entrance to, not continuance within the profession. If I seem to be laboring a point—you are right! I am! Continued professional status and recognition comes from just one thing—performance."

Horne ended by urging a serious attitude toward continued education. "Take a serious point of view," he said. "Accept and reject according to your personal advantage measured in terms of ability to perform. Then, compile a record of performance, with the benefit of your professional growth, that will speak with an eloquence that enhances all other forms of record and certification you may possess."

GD Man Will Head National Society

Bryant E. Justice, assistant to the Corporate director of reliability, quality control, value control, has been elected national president of the Society for Nondestructive Testing. Previously he has been treasurer and vice president.



Bryant Justice

A graduate of Texas Wesleyan College (chemistry) with graduate work at SMU, Justice joined General Dynamics in 1950 as a chemist at Fort Worth division.

Research Society Hears GD Speakers

Three members of Fort Worth division's operations research group spoke recently at a meeting of the Operations Research Society of America in Houston.

C. B. Moore, chief operations research, and Travis Peace, project operations analyst, spoke on "Use of Operations Research in Effectiveness Planning of Space Mission and Program."

"An Optimization Procedure Utilizing Dynamics Programming" was given by W. H. Purcell Jr., senior operation analyst.

People Mobility

Interdivisional Transfers

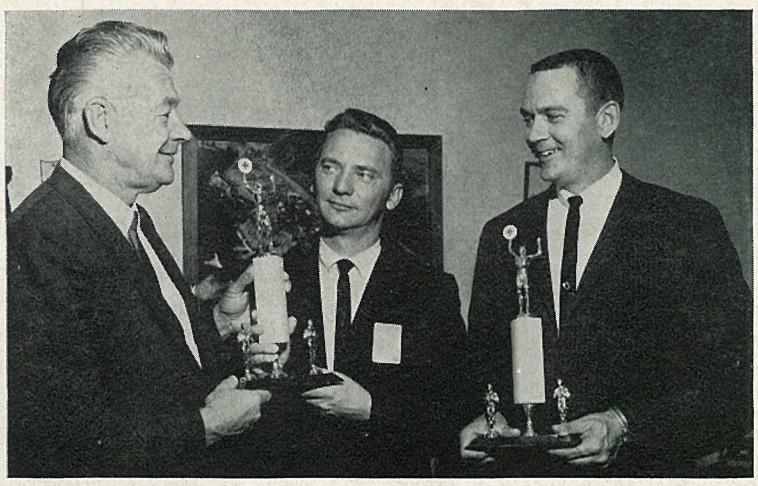
(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

L. W. FITZGERALD (1952) from Convair to Corporate Headquarters, New York, as manager of wire communications.

FRED J. BETTINGER (1958) from Convair to Fort Worth as administrative assistant, Dept. 2-5; **SUMNER B. HARKEY** (1956) from Electronics, San Diego to engineering, Electronics, Rochester; **RICHARD N. FRANKLIN** (1957) from Convair to General Atomic; **ALBERT P. JENNINGS** (1955) from Electronics, San Diego to manufacturing engineering, Electronics, Rochester; **ROBERT H. CARPENTER** (1962) from Pomona to senior reliability engineer, Canadair; **THOMAS V. McGUIRE** (1962) from Convair to engineering, Electronics, Rochester.

JAMES D. BELL (1960) from Pomona to Corporate Headquarters, Washington office; **DANIEL L. PETERSON** (1950) from Convair to quality control, Electronics, Rochester; **HAROLD H. HORMAN** (1942) from Electronics, San Diego to senior design engineer, Pomona; **JOHN E. BECKER** (1960) from Electronics, San Diego to engineering, Electronics, Rochester; **CHARLES B. ANDES** (1963) from Pomona to engineering, Electronics, Rochester; **THOMAS E. MORRIS** (1942) from Stromberg-Carlson, San Diego to material project administrator, Convair.

J. G. MELVIN (1962) from Electronics, San Diego to Corporate Headquarters, Los Angeles office; **ROBERT R. MENDOZA** (1961) from Convair to program analyst, Electronics, San Diego; **JOHN C. LYON** (1964) from Pomona to Electric Boat as research and development engineer; **LEE EDWARDS** (1961) from Corporate Headquarters to Electronics, San Diego as marketing manager; **JOSEPH P. GAY** (1956) from Convair to master scheduling analyst, Electronics, San Diego; **DANIEL McGRATH** (1965) from Electro Dynamic to senior engineer, Electric Boat.



SAFETY RECOGNITION — J. W. Garrison, left, Convair chief safety engineer, presents trophies to H. Maynard Brown Jr., center, Sycamore operations chief, and Donald L. Fagan, Vandenberg base operations manager, in recognition of safety records established by installations. Sycamore has gone for three years and Vandenberg for two without lost-time accidents.

Professional Placement and Personnel Combined With Employment Section

Convair's previous professional placement and personnel section and employment section have been combined into a new professional placement and employment section in industrial relations department at the Kearny Mesa plant.

Robert M. "Bob" Smith, formerly chief of professional placement and personnel, is manager of the new section and reports to Ross A. Evans, manager of personnel administration.

Smith said employe files from the two sections are being consolidated and the work force merged for greater flexibility and efficiency.

In addition to recruiting, interviewing, hiring, and the administration of related employment functions, the section will administer a performance appraisal program, provide counseling for non-represented salaried personnel, conduct personnel research programs and statistical analysis of employment data.

Fitzgerald Shifts To NY Headquarters

L. W. Fitzgerald, Convair general supervisor of office services, has transferred to General Dynamics New York Headquarters as Corporate manager of wire communications, reporting to Carlton M. Barlow, director of administrative services.

Fitzgerald is succeeded at Convair as acting general supervisor by Douglas B. Zink, telecommunications facilities analyst, who joined Convair in April after more than 11 years with Pacific Telephone Co.

Fitzgerald was in Corporate office at San Diego from 1952 to 1960 as manager of special activities, left the Company for three years, returning to management systems administration in the then Astronautics division.

TESTING SOCIETY HEARS GD MAN

Clarence Smith, Convair fatigue specialist, presented results of a recent survey of major aircraft manufacturers on their use of tapered bolts in airframe assembly at last week's West Coast convention of the American Society for Testing Materials. Smith's paper outlined his study of improved fatigue life.

Commodity Lectures Continue at Kearny

Management Club members can still enroll at 5 p.m. Tuesday, Nov. 16, at the second of six lectures on commodities being given in the Bldg. 2 presentation room at Kearny Mesa.

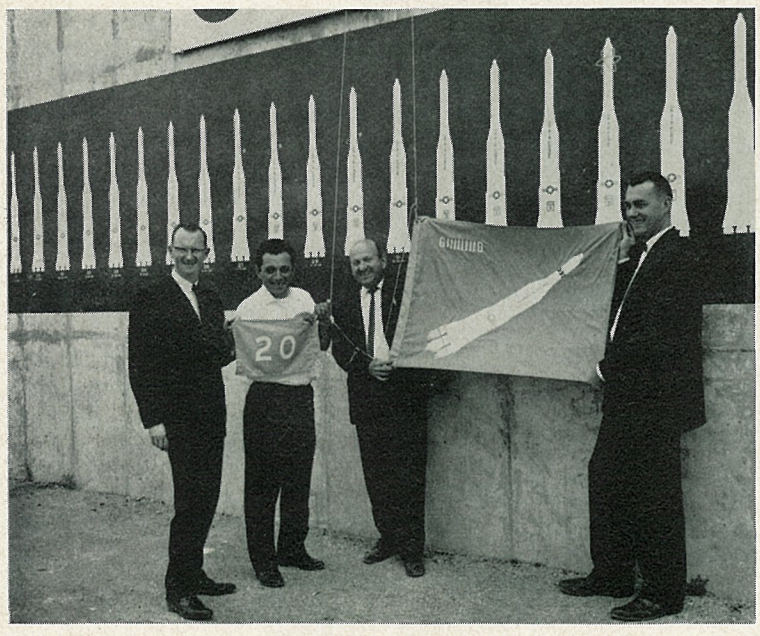
Joseph M. Maguire Jr., commodity manager for Hayden Stone Inc. in La Jolla, is instructor. Meetings are from 5 to 6:15 p.m.

During the series, information will be presented on the economic role of the speculator, factors determining price fluctuations, the theory of hedging, government support program, chart trading, open interest and proper speculative trading procedures.

Investment Lecture Slated For Nov. 16

The second of five investment lectures will be held from 5 to 7 p.m. Tuesday, Nov. 16, in the Bldg. 5 engineering auditorium at Lindbergh Field.

Robert A. Bowden of Hornblower & Weeks-Hemphill, Noyes is speaker and will cover mutual funds, stocks, convertible bonds, warrants, commodities and investment counselors. A Management Club membership card is required for admission.



FLYING COLORS — Convair folk at Vandenberg AFB, proud of record of Atlas shoots, fly pennants from mast atop PALC II blockhouse. Mrs. William Zathan, wife of Asst. Foreman Zathan, is facility's "Betsy Ross" and provides crew with running supply of smaller pennants for display elsewhere. From left: Dick Smith, assistant site manager; Zathan; Joe Ardoin, foreman; F. M. "Morrie" Anderson, site manager. Crew comes under Curt Johnston, Convair chief engineer at WTR.

F-106 Squadron Earns Citation

An F-106-equipped squadron, the 456th Fighter-Interceptor Squadron based at Castle Air Force Base, Calif., has been cited for outstanding operational performance during the 12-month period from July 1, 1964, to June 30, 1965.

Lt. Gen. Herbert B. Thatcher, commander of the Air Defense Command, presented the ADC "A" award last month to Lt. Col. William C. Jackson, squadron commander. Attending the ceremony was Maj. Gen. Carroll W. McColpin, commander of the 28th Air Division under which the 456th serves.

This is the second "A" award achieved by the 456th. In February, 1957, the squadron was honored for outstanding performance during its first year and its showing in the ADC tactical evaluation early in 1957.

C. W. Stevens is based at Castle AFB in support of Convair-built F-106s as Convair field service representative.

Convair Man Heads Space Association

R. R. Brazell of Convair aircraft flight test was elected 1966 president of the Space and Flight Equipment Association at the national symposium held last month (Oct. 11-14) in Atlantic City, N.J.

Brazell, who had served as national secretary-treasurer during the current year, will take office Jan. 1.

Other Convair delegate at the national meeting was R. L. Wolf of Convair life sciences. Wolf served on the national executive board this year.

The Association's purpose is to gather information about and investigate modern flight survival techniques and personal equipment.

NASA Extends Study On Metals Fatigue

Convair's current studies on fatigue life predictions of metal have been extended for another six-month period by NASA's Lewis Reseach Center, Cleveland, Ohio.

The follow-on contract, received last month, calls for application of the Smith method of predicting fatigue life to notched specimens—aluminum alloy specimens with holes in them. The method of fatigue life prediction was developed by Clarence Smith of the Convair fatigue laboratory.

Some 120 metal specimens will be tested in the Convair fatigue lab at the Harbor Drive Test Site before final evaluation reports are submitted to NASA in March of 1966.

Convair Wives Plan 'Wine Cooking' Talk

Convair Wives will learn the intricacies of "Cooking with Wine," from Charles Griffith of the California Wine Association at their Nov. 17 luncheon at the Stardust Hotel. Social hour begins at 11 a.m.

Members are reminded to bring contributions for the Christmas basket for a needy family.

Reservations may be made by calling Lou Nordeck, 273-1140, or Susan Cavanagh, 279-1633.

Space Committeeman Seeks Rocket Data

Oct. 29, 1965

Dear General Dynamics:

Could you please send information on the Atlas and on the Apollo project?

I am on a committee and they made me in charge of a scrapbook about rockets and missiles. If you could, would you also send information on the Saturn booster and others? Thank you.

Sincerely,
Mark C. Meyer
4872 Mt. Bigelow Dr.
San Diego, Calif. 92111

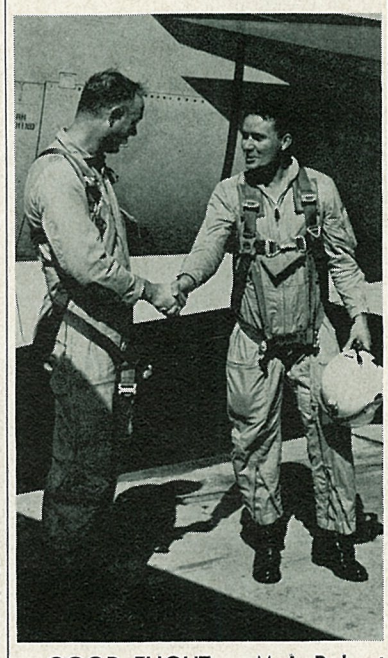
P.S.: I am in the sixth grade.

(Ed. Note: General Dynamics was pleased to assist.)

Tour Reservations Still Being Taken

Reservations for the Christmas tour to Mexico are still being accepted by Jim Hardison who will conduct the Management Club-sponsored trip over the year-end holidays, Dec. 18-Jan. 2.

Tour price is $385. Deposits must be made this month. For complete information call Hardison at his home phone, 276-5805.



GOOD FLIGHT — Maj. Robert K. Parsons, left, and W. E. Denton were crewmen who ferried F-111 No. 3 to Edwards AFB last month.

AIAA Members Hear About Convair Buoy

Convair's oceanographic buoy was described to members of the San Diego Section of the American Institute of Aeronautics and Astronautics at the Oct. 27 meeting by Ken Samples, assistant program manager on the project.

Under the title "Buoy Bravo vs. Hurricane Betsy" Samples gave a brief technical description of its hydrodynamic design, telemetry system, instrumentation, and associated mobile based receiving station. He continued with film clips and slides.

S-C and Electronics Hoop Teams Invited

Shop league managers will have the last chance to enter teams for winter league basketball competition in a meeting at 5 p.m. Nov. 11 in CRA Clubhouse.

Teams from Convair, Stromberg-Carlson and Electronics divisions have been invited. All games will be played in Municipal Gym, Balboa Park.

Further information can be obtained at Kearny Mesa, ext. 1111.

ROCKHOUNDS TO HEAR NAVAL OFFICER

CRA Rockhounds will hear a talk on Australian opals at their regular meeting tomorrow (Nov. 11), 7:30 p.m., Gillespie Field Clubhouse. Lt. Cdr. Clarence V. Rudd (USN, ret.) will speak.

Reproduction System Explained in Article

"How to Make Charts and Graphs Without Hardly Trying," an article by Stan B. Hodge, Convair manager of industrial graphics, was featured in the October issue of Industrial Methods magazine.

It describes a system for making black and white charts and slides in five minutes or less with a labor and material cost of 50 cents or less.

Hodge said the system was developed at Convair through "team effort" but much of the credit goes to Leonard Parker, and Burton Brockett. Employes appearing in various photos accompanying the article include Robert Anderson, Caroline Ruscilli, Gary Kornmayer, Connie Martin.

Knutson Dominates .22 Pistol Shooting

J. S. Knutson topped the scoring line-up in .22-cal. Police Course events at both of CRA Pistol Club's matches last month. He shot a 294 to head the Oct. 10 master division of Police Course competition and placed first in the master Oct. 24 with a 292.

Ronald Schneider was master class runner-up with a 283 on Oct. 10, while Warren Ranscht was second Oct. 24 with a 290.

Stan Hodge Chairs Career Conference

Stan B. Hodge, Convair manager of industrial graphics, served as chairman for the city and county schools' Art Careers Conference last Saturday at California Western University in San Diego.

The Art Directors Club of San Diego arranges the program for the conference each year. Norman Rutherford, supervisor of proposals from Convair, was among the speakers.

More Parking Added At Lindbergh Plant

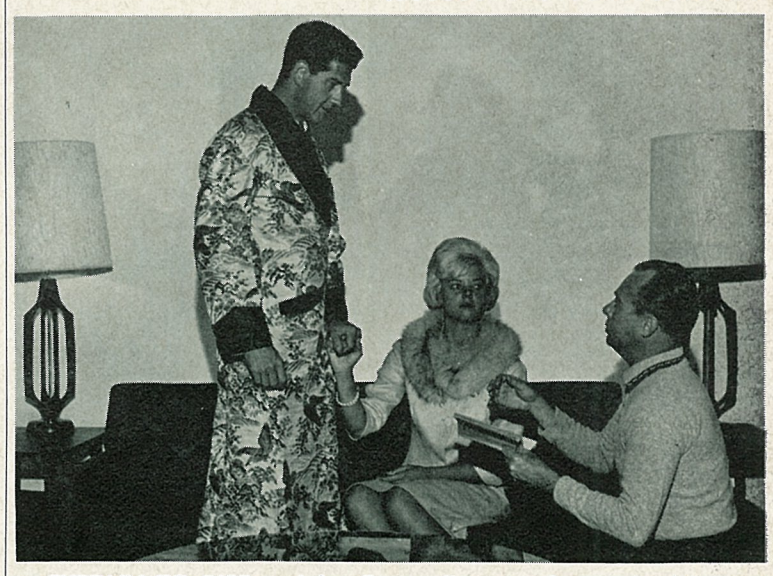
Additional parking has been provided for Convair employes at the Lindbergh Field plant with addition of another open parking lot across Pacific Highway.

The area is located between Vine and Upas Streets, Kettner Blvd. and the railroad track. Entrance is from Vine St. next to the railroad. The lot is open to all employes on a first-come basis.

Color Slide Show To Feature Parks

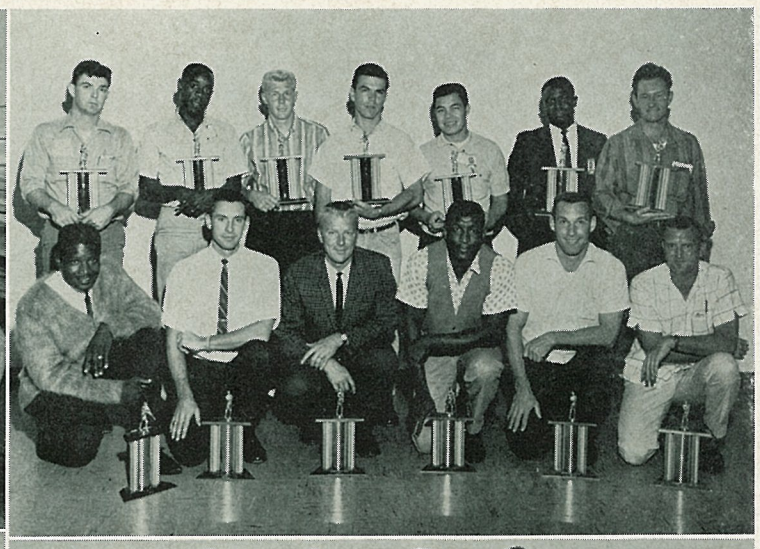
"Western Wonderland," an hour-long presentation of color slides and narration featuring national parks, will be shown the public free Wednesday (Nov. 17) at 8 p.m. in CRA auditorium, Kearny Mesa, sponsored by CRA Adventurers.

All GD families are invited, said Commissioner Dick Bowen. The slides were selected from many hundreds taken by Larry and Edith Tuttle during trips to six national parks. Tuttle is general foreman of missile checkout and acceptance.



CURTAIN TO RISE — John Cone, director of comedy, "Present Laughter," first production of Triangle Players, gives tips to Bill Irish and Prudence Moore as they rehearse dramatic scene. Play opens tomorrow in CRA Clubhouse. Show runs Nov. 11-13, 19-20, 24-27.









WINNERS — LOTS OF THEM! — Winning and runner-up teams at wind-up of Convair plant slow pitch and fast pitch softball leagues in CRA play are (top left) Stromberg-Carlson, slow pitch champ; (top right) Cosmo Bums, fast pitch winner; (lower left) Electronics Operation, slow pitch runner-up; (lower right) R&D Electronics, fast pitch runner-up. Stromberg-Carlson team members are (front row) Ken Farnsworth, Bob Warner, Tony Berardini, Jim DeBus, Carl Creager; (back row) Duane Warner, Skip Bowman, Cindy Swank (team mascot), Fred Walz, Mike Peterson, C. V. Shannon, S-C manager, Gil McCoy, Jack Swank, Doug Sawyer, Mike Howe. Cosmo Bums: (front row) Gene Grey, John Nelson, Whitey James, Fred Todd, Bill Alexander, Roy Bryson; (back row) Scott Davis, Bruce Fowler, Jerry Van Wey, Jim Campbell, Tino Diaz, Grady Tyron, Dan Parnell. Electronics Operation: (front row) Ray Washee, Paul Fuchs, Gary Vance, Sam Beard, Jack Kelley, Don Dvorak, Dennis Newlon; (back row) Frank Arb, Jack Sinnott, Ruben Villanueva, Pete Goetz, Manny Gomes, John Graves Jr., Jerry Judd, Ray Trent. R&D Electronics: (front row) Larry Nelson, Bob Perin, Jack Kelly, Lloyd Johnson, Ed Rincon; (back row) Roy Wheiland, Jim Miller, Noah Moffett, Rudy Lopez, Frank Lay, Frank Berry. Team and individual trophies were presented at awards banquets last month.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS is noon, Nov. 17, ext. 3322, Kearny Mesa.)

★ ★ ★

ADVENTURERS — Free public slide showing, "Western Wonderland," CRA auditorium, Nov. 17, 8 p.m. Weekend trip to Anza Borrego desert Nov. 20-21. Call Joe Quijada, ext. 4068, Kearny Mesa.

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BASKETBALL — Managers meeting Nov. 11, 5 p.m., CRA Clubhouse.

BICYCLE CLUB — Familiarization ride Sunday (Nov. 14). Leave CRA Clubhouse at 1:30 p.m. Meeting Nov. 22, 7 p.m., Room C, CRA Clubhouse.

BRIDGE — Play every Friday night, 7:30 p.m., CRA Clubhouse.

COINEERS — Meeting Nov. 17, 7:30 p.m., Convair cafeteria, Pacific Hwy.

DELTA DIVERS — Meeting tonight (Nov. 10), 7:30 p.m., CRA Clubhouse. Spearfishing dive Nov. 14, 9 a.m., Torrey Pines.

DRAMA — Triangle Players present "Present Laughter" Nov. 11, 12, 13, 19, 20, 24 through 27, CRA Clubhouse theater.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GOLF — CRA tourney Nov. 13-14, Cottonwood.

ICE SKATING — GD skate night Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults $1; children, 35¢.

PISTOL CLUB — Shoot 9:15 a.m., Nov. 14, SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting Nov. 18, 7:30 p.m., Harbor Drive club headquarters.

ROCKHOUNDS — Meeting tomorrow (Nov. 11), 7:30 p.m., Gillespie Field. Outing to Tenth International Rockhound Round-up near Barstow Nov. 13-14. Lapidary classes at Kearny Mesa Clubhouse Mondays through Thursdays, 7-9 p.m., Saturdays, 10 a.m.-5 p.m.; at Gillespie Field Rockhound Shack Wednesdays 7-9 p.m.

SKI CLUB — Annual Sno Ball Saturday (Nov. 13), Hilton Inn. Dry land ski classes Nov. 14, 21, Conference Bldg., Balboa Park. Ski trip to Mammoth Nov. 25-28.

SPORTS CAR CLUB — Meeting tonight (Nov. 10), 7:30 p.m., Convair executive dining room, Pacific Hwy.

TABLE TENNIS — Tourney set for Nov. 20, 10 a.m., CRA Clubhouse. Entry deadline Nov. 17. Forms at Clubhouse.

WIVES — Luncheon Nov. 17, Stardust Hotel. For reservations call Lou Nordeck, 273-1140; Susan Cavanagh, 279-1633.



SNO-BALL PRINCESS — Nan Weaver, daughter of Electronics' Bob Weaver, former ARA Snow Ski Club commissioner, will represent CRA Ski Club at this Saturday's (Nov. 13) Sno-Ball as one of the queen's court.

Electronics, S-C, Convair Teams Divide

Teams from Electronics, Stromberg-Carlson, and Convair split title honors at the finish of a hard-hitting, close-running CRA plant softball season.

Lone Convair team to end as a winner was the Cosmo Bums who took the fast-pitch league title without an argument. It shut out all competition in both rounds of the regular schedule and held a record standing of 22 wins and one loss in both pre-season and league play. Its one loss was a 2-0 shutout by Quality Control Colts.

Second-place honors in fast-pitch play went to the R&D Electronics team who held a 14-3 standing for the season.

Stromberg-Carlson's entry made a strong finish to take the slow-pitch title after winning the play-off with runner-up Electronics Operation in two straight games, 5-2 and 10-7. Electronics Operation had to break a tie with Electronics Purchasing to cinch the National League title before going into the final play-off deciding championship team for the entire season.

Awards went to members of all four teams at dinners held the latter part of October. Pete Beyrer of CRA presented team trophies to Managers Mike Peterson of the Stromberg-Carlson team; Don Dvorak, Electronics Operation; Jim Campbell, Cosmo Bums; and Frank Berry, R&D Electronics. Tony Berardini serves as CRA softball commissioner.

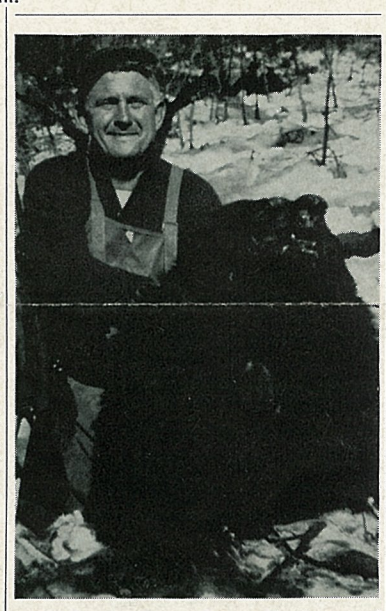
'Bottom Scratcher' To Address Divers

Delta Divers, CRA skin diving group, will hear Jack Prodanovich speak at tonight's (Nov. 10) meeting in CRA Clubhouse at 7:30 p.m.

Prodanovich is a charter member of the Bottom Scratchers, oldest skin diving club in the area.

Next dive on the club's agenda is a spearfishing meet this Sunday (Nov. 14) at 9 a.m. off Torrey Pines.

Rod Johnson garnered the most points and the largest catch of fish in the Oct. 24 spearfishing and lobster dive at Cardiff.



BIG BAG — Dan Tucker of Convair poses with 300-lb., 6-ft. black bear downed on Colorado hunting trip.

Deer Hunter Bags a Bear

A Convair hunter, Dan Tucker of Dept. 400-5, surprised himself, as much as anyone, when he brought down a 300-lb. black bear on a recent deer-hunting trip in Colorado.

He sighted the bear while waiting for deer to come up the trail, and in the excitement forgot to slip the safety and missed the first shot. Then he managed a shot and wounded the huge animal. He, and companions R. J. LaMadrid of Dept. 400 and Gene Douglas of Nucla, Colo. (whose mother is in Convair Dept. 400), followed the bear into the brush where Tucker finished him.

This was the first bear Tucker ever downed in the 10 years he has been hunting in Utah and Colorado.

He also got a 4-point deer—a 225-lb. mule, and a doe on his trip.

Table Tennis Meet Set For Saturday

A table tennis tournament for employes and families will be held Saturday, Nov. 20, beginning at 10 a.m. in CRA Clubhouse, with men's and women's singles and men's doubles events.

Get entry forms at CRA Clubhouse or from Bob Herold of Dept. 141-3, ext. 3392, Kearny Mesa. Deadline is 3 p.m. Nov. 17.

Chrysanthemums Viewed by 1,000

Mrs. A. E. Hornby's entry in the Convair Garden Club's annual fall Chrysanthemum Show Oct. 24 won honors as the best large bloom displayed.

Co-commissioners Everett Henderson and Gene Zimmerman said nearly 1,000 spectators visited the Floral Association Bldg., in Balboa Park to view the 385 displays.

Other best-of-show winners included Zimmerman, Dennis and Janice Zimmerman, Charles Splinter, Carolyn Buman, Henry Boyd, Mrs. Felix White.

Other winners were Felix White, Charles Lewis, J. R. Buman, Margaret Boyd, Ronnie Lewis, Evelyn Glasser, A. E. Hornby, Stella Dennis, Arnold Carroll, John Volper, Lucille Sharman, LaVonne Splinter, Ray Sharman, Helen Spann, Clarice Sinnott, Madeline Volper, Norma Bradshaw, Bob Bradshaw, Bill Spann and W. K. Spann.

First Bicycle Club Outing To Be Sunday

First outing of the newly-organized CRA Bicycle Club is set for Sunday (Nov. 14).

Members will meet at CRA Clubhouse, Kearny Mesa, at 1:30 p.m. The 10-mile bike trip will familiarize bicyclists with group riding techniques and safety rules. The ride will be under the direction of Chan Jackson of Convair.

All Convair employes and their dependents are eligible. However, children must be accompanied by a parent. Electronics and Stromberg-Carlson people also are invited.

The club has set the fourth Monday of each month as its regular meeting night. Next meeting will be in Room C of CRA Clubhouse at 7 p.m., Monday (Nov. 22).

Adventurers Plan Weekend on Desert

CRA Adventurers will visit the desert Nov. 20-21.

A family car camp will be set up in the Fish Creek Mountain area of Anza Borrego State Park. Families will rendezvous at 9 a.m. Saturday at Ocotillo Wells on Hwy. 78 and caravan to campsite. Bring wood and water.

Trip leader Joe Quijada plans a hike in the Split Mountain area and pick-up and jeep shuttles to other areas. A park ranger will talk at the Saturday night campfire.

For details call Quijada, ext. 4068, Kearny Mesa, or at home, 284-0883.

Coineers Will Draw For Holiday Bird

CRA Coineers will hold their next meeting Wednesday (Nov. 17) at 7:30 p.m. in Convair cafeteria, Pacific Hwy., with a Thanksgiving turkey given away in a drawing.

There also will be three $5 gold pieces given. The "give-away" coin for everyone present will be a 1958-D B.U. nickel.

Door prize, a U.S. 1961 proof set, at the Oct. 20 meeting went to Ed Jankowski. Drawing awards were won by John Barrett, Larry Sweeney, Frank Dohm, Leonel Panosh, and Glen Tuttle.

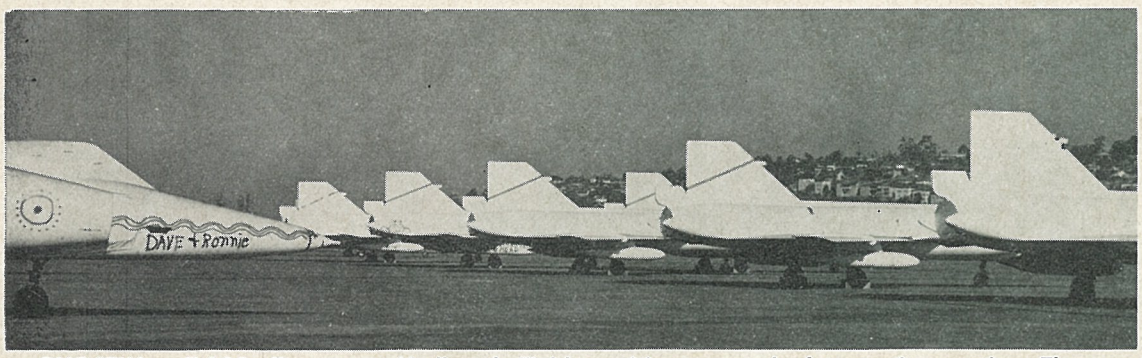
Pope's 81 Low Gross In CRA Links Play

C. C. Pope took low gross and Gordon Woods low net in CRA links play last month at San Luis Rey. Pope shot an 81 and Woods a 69.

Gerry Cox was just a stroke behind with an 82. Harry Bodwell was low net runner-up with a 71.

Other winners were: Len Therrien, Bob Meekin, J. E. Miller, Clinch Crocker, Owen Hasbrooke, Glen Smith, J. K. Ball, J. D. Beamer.

Next CRA tourney will be this weekend (Nov. 13-14) at Cottonwood.



GHOSTLY — F-102s line up at Lindbergh Field awaiting removal of protective coating. They are being deprocessed at Convair Service Center under a SAAMA contract.

'Bravo' Gathering Data on Influence Of Lunar Cycle on Ocean Currents

How pull of the tides affects Gulf Stream velocities will be determined from information relayed throughout this month by Convair's "Bravo," prototype oceanographic buoy moored off the coast of Florida in the axis of the Gulf Stream.

A time history of the actual current velocity as it is affected by the lunar cycle, as well as the daily tidal cycle, will be recorded by means of a special analog computer developed by Ralph Kosic, Convair engineer with the oceanographic buoy program.

This is the only time in some 75 years that information dealing with the influence of tides on the current has been gathered in this particular Gulf Stream area. In 1886 Lt. John Pillsbury moored the research steamer "Blake" at various points in the Gulf Stream to gather data at different depths, using mechanical current meters. The longest continuous reading was for 166 hours.

The newly-developed Convair Surface Wave Computer has been installed in the oceanographic mobile data station located on shore at Hollywood, Fla. The data station's crew will interrogate the buoy's instrumentation over a 28-day period, the complete lunar cycle, to ascertain wave heights and current velocities. The computer will determine the wave heights. Correlation of the current velocities with direction and velocity of wind also will be studied. The actual correlation studies will be conducted in Convair's digital computer facility at Kearny Mesa plant.

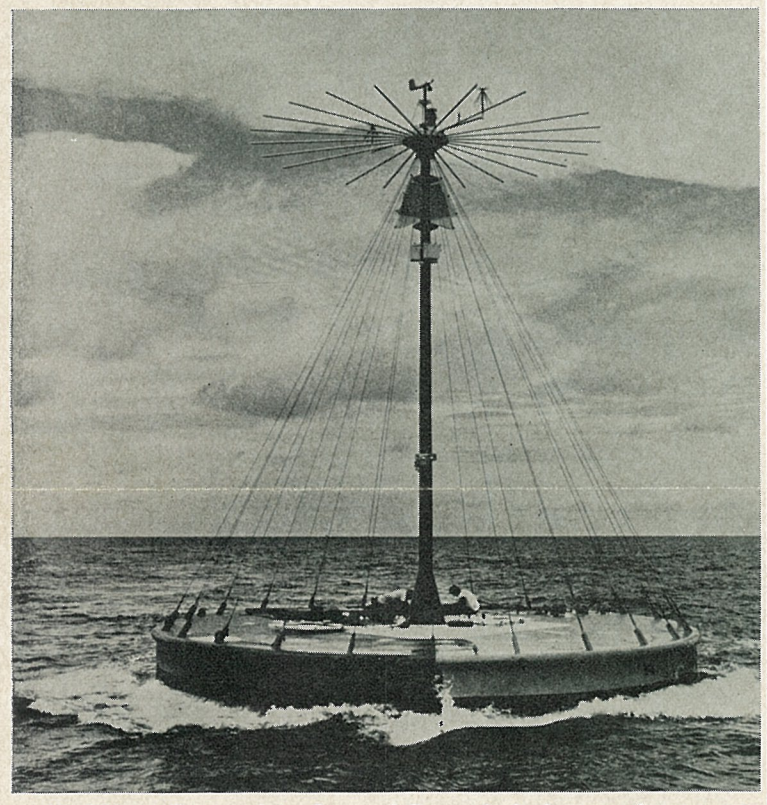
An accelerometer on board the buoy transmits the G forces of the buoy's up-and-down motions. This information is transformed by the Surface Wave Computer to a tape "wave profile" record, showing the actual wave heights over extended periods of time. Engineers in the mobile data station will observe significant wave heights by actual meter indications and see the overall surface-wave pattern on the "quick-look" chart recorder.

Manning the data station during first half of the round-the-clock interrogation period is Warren R. Hoover, engineer in charge, assisted by Dennis Hyland of the oceanography group and Lee Bettis of experimental department.

Robert Devereux, oceanography program manager at Convair, said that the buoy is gathering more information during its tour of duty at sea than ever before possible by other types of instruments.

The buoy, which has been at its present location since April, will be retrieved the middle of December to be readied for its next task in the present test series. Early next year it will be towed to a point 50 miles south of Puerto Rico and moored in water 16,000-ft. deep. This will be the buoy's first truly deep-water test.

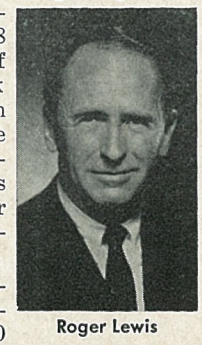
Convair's second prototype, "Alpha," is being outfitted at the Harbor Drive Test Site in San Diego for full-scale antenna and towing tests in San Diego Bay. It will go into operation off the Southern California coast next year.



AT SEA — Featured in General Dynamics' nine-month report to share owners was buoy "Bravo," shown anchored off Florida. Developed by Convair division, Bravo is prototype for what may become world-wide network of ocean stations to gather oceanographic and meteorological data and transmit to shore.

Dynamics' Net Income Rises

Net income for General Dynamics and its subsidiaries for the nine months ending Sept. 30, 1965, was $31,207,000 or $2.78 per share of common stock after provision for preference dividends, General Dynamics President Roger Lewis announced last month.



Roger Lewis

This compares to $29,575,000, or $2.60 per common share, for the first nine months of last year.

The Corporation's net sales for the nine months ending Sept. 30, 1965, totaled $1,058,145,000, compared to $1,163,048,000 for the first nine months of 1964.

For the three months ended Sept. 30, 1965, net income was $12,881,000, or $1.20 per common share, on net sales of $352,475,000. For the corresponding period of last year, net income was $10,965,000, or 98 cents per common share, on net sales of $403,502,000.

General Dynamics' statement of income includes profit on the research, development, test and engineering contract for the F-111 variable-wing fighter plane for the first time.

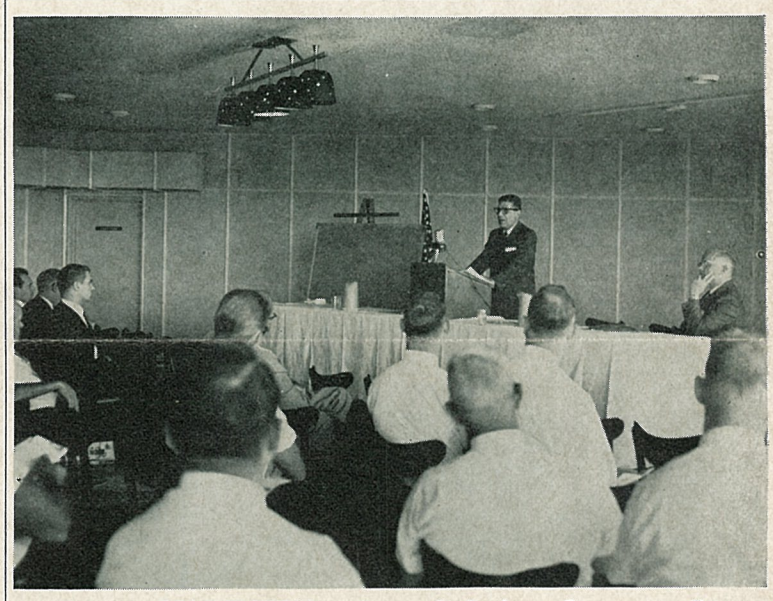
"We had deferred booking profit on the F-111 program," Lewis said, "since this airplane involves a considerable advance in technology which must be accomplished under a fixed price incentive type contract."

Seven of the aircraft—six Air Force F-111As and one Navy F-111B—are now in the flight test program and have recorded more than 300 flight hours.

Lewis said that the flight program through the most recent tests has "confirmed our confidence that both versions of the F-111 will meet their performance objectives."

He said it is now possible to predict with reasonable certainty that the research, development, test and engineering contract for the initial 23 aircraft will be profitable.

Lewis also announced that directors have declared a regular quarterly dividend of 25 cents per common share, payable Dec. 10, 1965, to stockholders of record on Nov. 19, 1965, and a quarterly dividend of $.7265625 per share of preference stock, payable Jan. 3, 1966, to stockholders of record on Dec. 15, 1965.



AT NMA CONVENTION — James L. Budros, Corporate director of compensation and personnel development, was featured speaker at one of major conferences during NMA convention last month in San Diego. He was introduced by Ross Evans of Convair, conference chairman (seated at right). Convention was well attended by GD club delegates with following represented: Convair, Canadair, Quincy, Pomona, Electronics and Stromberg-Carlson (both San Diego and Rochester), ETR and WTR, Edwards and, of course, Fort Worth division, whose club collected laurels as No. 1 in the nation.

First of Kind

Humanitarian Hobby of Flying Doctors to Baja Leads to Book

Arnold D. Senterfitt, Convair engineer in Centaur systems analysis Dept. 952-1 at Kearny Mesa, has published a book on "Airports in Baja California." It is the first on this subject known to have been published.

Actually, the book is a compilation of diagrams of 102 airstrips and nearby visual references along with pertinent information about each.

Information listed includes runway length and surface, radio data, availability of fuel, food and accommodations, directions to the nearest settlement and how much English is spoken.

The first few pages of the book include general information on Baja and on flying there including instructions on flight plans, immigration, etc.

"I really didn't plan to write a book," Senterfitt said. "It just turned out that way."

The book actually got its start three years ago when Senterfitt was president of the Flying Samaritans, local pilots who fly physicians, dentists and nurses into Baja communities to provide care. One of his problems was interesting other pilots in flying into the area.

"There wasn't much information available and much of it was incorrect," he said.

Senterfitt started making sketches and notes of his own and later, a 10-airport layout was printed for a group planning an aerial tour.

"People kept asking for copies and everyone wanted his favorite strip included. The idea grew to cover all of Baja." As it turned out, he flew more than 100 hours compiling information.

The book, soon to be featured in the travel section of an aviation magazine, is being sold at airports, bookstores and by mail order from Senterfitt's home at 3454 Olga Ave. It is dedicated to "the people of Baja California who make us gringos welcome in their country."

Some of the directions are amusing. The pilot is directed to "buzz the strip" at El Arco to clear away children before landing. At Oakie's Landing, the pilot is instructed to "circle Oakie's" three miles to the north so a car will be sent out.

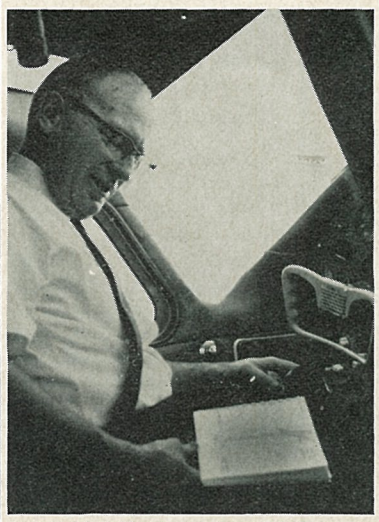
Senterfitt is still a member of Flying Samaritans and monthly flies Dr. John Kruse, a Navy anesthesiologist, a nurse and a laboratory technician to Santa Catarina about 150 miles southeast of San Diego. C. E. "Red" Birdsell of the Convair medical department frequently goes along.

A tribe of 168 Pai Pai Indians of the Yuma nation lives in Santa Catarina. They speak Pai Pai, although some younger members speak Spanish. A 15x30-foot adobe clinic building has been erected by the people and portable X-ray equipment and a generator flown in as required.

On Oct. 16, Senterfitt flew Dr. Kruse and Dr. Jacob Bleiberg, a visiting dermatologist from New Jersey, to Santa Catarina. During the course of examining a 60-year-old woman, Bleiberg found the fourth case in medical history of myxedema of the scalp, a thyroid disease manifestation.

Bleiberg spoke to the woman in English, Senterfitt translated the English to Spanish and the woman's husband translated the Spanish into Pai Pai.

Senterfitt plans another book in the spring that will consist largely of photographs and show some of the areas of Baja California accessible only by air.



BAJA FLYER — Arnold Senterfitt reviews his new book, "Airports in Baja California," before taking off in Cessna 195.

Tomcat, Institution at Kearny Mesa Plant, Adopted and Now Has a Home on the Ranch

What happened to the Kearny Mesa plant's big grey tomcat?

He now has a home on the ranch—at the Poway ranch home of Elizabeth Gerding, secretary for R. C. Sebold, research, development and engineering vice president, and K. J. Bossart, technical director.

The big grey tomcat never had a name—but he was something of an institution. He was envied by many a male because every day he shared the lunch of at least a half-dozen pretty secretaries. He didn't seem to mind that he was on the opposite side of the fence.

Leonard Parker, graphic designer in Dept. 126-0, said at first he was "wilder than a March hare." Al Krieger of Dept. 845-1 caught him once, then went to central medical for a tetanus shot!

"He's going to be a beautiful cat," Mrs. Gerding said. "He's not really wild and he likes to play. He hasn't fought since we took him home."

P. D. Ferrara, director of engineering administration, arranged for a sign on the chain-link fence near the cafeteria where employes had been feeding "Tom" so they would no longer put food through the fence.

It reads: "What's new with our tomcat? He's been adopted and doing well . . ."

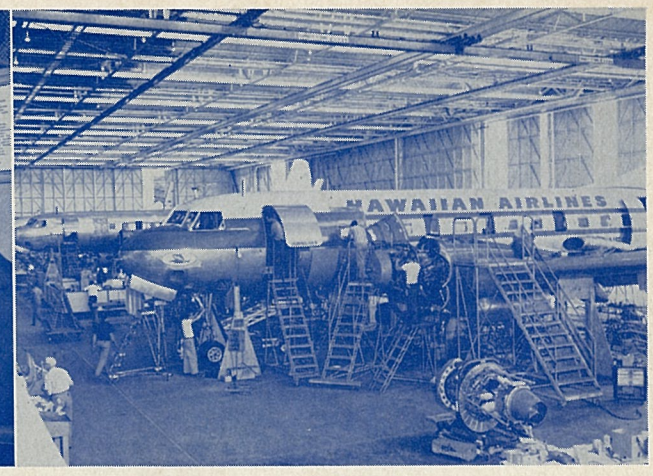
Vandenberg Flight Schedule Reduced

Company airlift flight schedule from Convair division at San Diego to Vandenberg AFB has been reduced to three flights per week.

Flights now leave the Convair north flight gate, Lindbergh Field plant, at 8 a.m. on Monday, Wednesday, and Friday. Return flights leave Vandenberg AFB at 4 p.m. the same days. All scheduled flights are via Long Beach, Norton AFB, and Edwards AFB as required.





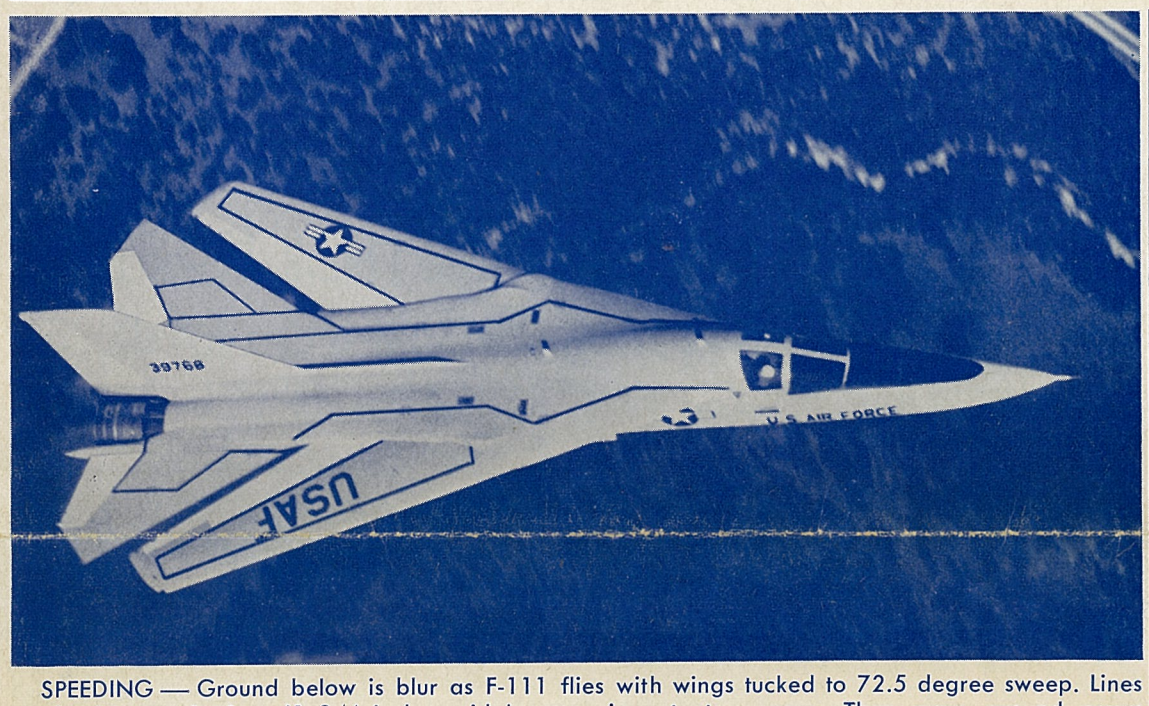


GOING CONCERN — Convair Service Center is under way and rolling as newly-established repair and overhaul facility for airframe and aerospace products with military and commercial planes now in work. At left, L. B. Coyle and Harold Baker, mechanics, strip Air Force F-102 of protective coating under SAAMA contract while, at far right, is Convair-Liner under conversion to Convair 600 for Hawaiian Airlines. In center is Service Center's adminstratve staff. E. J. Huntsman, manager, at head of table (fourth from left) consults with (from left) J. D. Tate, chief of quality assurance; L. F. Lau, chief of operations; R. G. Leigh, chief of administration; Lee Drake Jr., chief of program scheduling; J. J. Zathan, chief of material. Service Center occupies former Lindbergh Field building.

MAIL EDITION

GENERAL DYNAMICS NEWS

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SPEEDING — Ground below is blur as F-111 flies with wings tucked to 72.5 degree sweep. Lines on fuselage and wings (1 3/4 inches wide) serve important purpose. They warn ground crews where it is safe to walk without running danger of damaging aircraft.

Service Center Bidding For Overhaul, Repair

Convair Service Center, established as a separate organization for the modification, repair, and overhaul of airplanes and aerospace products, is off to a good start and going strong with a backlog of work piling up.

"We are extremely optimistic about the future of this type of business," said E. J. Huntsman, manager. "Initial operations have proved that it is good business for the Corporation and San Diego, as a whole. Since it is specifically designed for repair-type work only, not manufacturing, the Service Center is bringing contracts into this area which otherwise could not have been accomplished here."

The Service Center's first task, the 4,000-hour overhaul of Federal Aviation Agency's Convair 880-M, was completed right on schedule and delivered in late July.

Work currently under way includes conversion of 25 Convair-Liners to the turbojet Convair 600 version powered by Rolls-Royce Dart engines. Orders on hand are for installation of propulsion and APU kits into nine Caribair 340s, seven Hawaiian Airlines' 340s, eight Central Airlines' 240s, and a Convair-owned 240.

Caribair's first Convair 600 was delivered last week. A second Caribair Convair 600 is due out before the end of the year. First Convair 600 to go to Hawaiian Airlines will move out late this month and Central Airlines' third Convair 600 (the first to be converted at the Service Center) is scheduled for Dec. 20 delivery.

Before the end of this month the Service Center expects to have delivered the first 10 of the 61 F-102s and six TF-102s it is removing protective covering and preparing for flight for San Antonio Air Materiel Area.

The work is well ahead of schedule, said Huntsman, with the first plane delivered Nov. 5, 10 days ahead of schedule. And, by the end of this week a total of 10 were to be delivered or ready for delivery.

Fifty-three of the F-102s are in-plant with nine in work at all times.

In an add-on to the SAAMA order, other F-102s have been flown to San Diego from Travis AFB for painting.

Also at the Service Center now for refurbishing and routine maintenance is the NASA 990, built by Convair and used for scientific research during both

(Continued on Page 2)

Convair 600/240 Approved by FAA

The Convair 600/240 has been approved by Federal Aviation Agency for revenue flying.

FAA officials signed the type certificate the middle of last week after the 600/240 prototype completed its certification program. The craft now has gone to the factory for refurbishment before delivery.

The Convair 600/440 prototype is continuing its flight testing for FAA certification.

More Unions Sign 5-Year Agreements

Five year collective bargaining agreements have been reached with three other unions at Convair division since the Oct. 11 signing with the International Association of Machinists.

They are the International Brotherhood of Electrical Workers, the United Welders of America and the Engineers and Architects Association.

The agreements are very similar to the IAM contracts reached at both Convair and Pomona divisions **(GD/NEWS, Oct. 27, 1965)** and include the same benefits of wage increases and improved retirement, holidays and other benefits, as well as participation in a Savings and Stock Investment Plan (hailed as the best in the

(Continued on Page 2)

Air Force Awards Research Contract

Pomona division of General Dynamics has been awarded a $700,000 contract by the Ballistic Systems Division of the Air Force, Norton AFB, for a re-entry vehicle impact investigation.

General Dynamics will provide the re-entry vehicle, instrumentation and telemetry for sled tests at USNOTS, China Lake. NOTS will cooperate in tests designed to obtain structural response data.

Wayne H. Terrill (Dept. 6) is program manager for Pomona division.

Variable Wings Big Breakthrough, Davis Declares

The same new flight advancements that make the sweep-wing F-111 tactical fighter the most versatile military aircraft ever built will be equally effective in increasing the utility of commercial aircraft.

"Higher speed, quicker climb-out, more efficient loiter, slower landing, smoother ride in rough air, and smaller parking space are all important and desirable characteristics in commercial as well as in military aircraft."

So said Frank W. Davis, president of the Fort Worth division of General Dynamics in an address last week at the first International Congress on Air Technology.

Davis went on to describe the two major advances embodied in the USAF/Navy F-111—its variable sweep wings that can be changed in flight from a virtually straight position to a sharply swept position and its new type of jet engines that combine the efficiency of the fan-jet with the power of an afterburner.

He ranked these advancements in importance with such aeronautical breakthroughs as retractable landing gears, radar, pressurized cabins, and others that are taken for granted today by pilots and passengers alike.

All these advancements, he said, "have had as their primary objective the increase in versatility and utility of aircraft. They have provided in the commercial field a revolution in transportation, and in the military field a revolution in strategy and tactics, the like of which the world has not heretofore seen."

Davis said the F-111, as the first embodiment of variable sweep wings and fan afterburning engines, provides another step in this history of achievement.

"Clear evidence that the value of this new level of versatility and utility is recognized," he said, "is shown by the interest of the Australian Air Force, the British Air Force, the Strategic Air Command, and others who find uses for the machine beyond those called out in the original specifications."

Davis discussed the design requirements for the F-111, described the design solutions achieved by General Dynamics, and traced the comprehensive testing program undertaken to insure the reliability of the new weapon system.

Reviewing the Navy and Air Force requirements for the F-111, he said, "We see small size, large load-carrying capability, very high speed, very low speed, rugged strength, light weight, sophistication, and simplicity all wrapped into one.

"It's a little like looking for a Volkswagen with Ferrari performance, Rolls-Royce appointments, and Mack truck carrying capability."

The basic design solution for reconciling these different requirements is, in the broad sense, simple, said Davis. The solution, variable-sweep wings, provides the pilot with a means of re-designing the airplane in flight to

(Continued on Page 2)



CLOSE INSPECTION — Carl A. Covington of the Department of Defense (research and engineering), left, gets F-111 briefing from President Frank W. Davis during recent visit to Fort Worth division.

More Unions Sign 5-Year Agreements

(Continued from Page 1)
industry), as soon as certain approvals can be obtained. Under the Savings Plan, General Dynamics will add 50 cents to every $1 saved.

Contracts call for a basic 40 cents an hour wage package over the five year span. Provided are 8-cent-an-hour wage increases in each of the five years. The cost of living program has been revised by which 8 cents of the previous 14 cents cost-of-living adjustment becomes part of the employe's base rate. The remaining six cents continue as part of the cost-of-living adjustment, together with provision for additional adjustment if this becomes necessary.

Two additional holidays are provided, one, effective this year, is the day after Thanksgiving. Still another paid holiday (bringing the total yearly to 10) will be effective in the fifth year of the contracts.

Three weeks vacation after 10 years' service is effective now and during the fourth year of the agreements it will be four weeks of vacation after 20 years service.

In addition, more dependents' insurance and more life insurance is paid for by the Company; hospital room and board coverage and surgical rates are improved; major medical coverage is doubled; retirement benefits are improved with earlier vesting.

The new contracts at Convair involve 90 represented by the IBEW, 50 by the UWA and 640 hourly technical employes represented by EAA.

William P. Engelfried, EAA's contract administrator, hailed the agreement as "helping to stabilize the economy of the San Diego community . . . and will give General Dynamics a firm footing to reach out and bid for new business."

Convair's M. V. Wisdom, director of industrial relations, said the new EAA contract, as well as those reached previously with IBEW, the United Welders and the IAM are realistic and agreed that the settlements, assuring five years of labor peace, will be important in the Company's long term competitive bidding for new business.

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Pomona division also reached agreement with the EAA last week on a five year contract including wage increases and substantially improved benefits.

AF Museum Seeking Early WWII Photos

Photos taken in the Southwest Pacific during the first six months of World War II are badly needed by the Air Force Museum at Wright-Patterson AFB, Ohio.

According to a plea from the museum in the November issue of Air Force and Space Digest, very few official photographs of AAF flying activities during that period exist.

Anyone having personal photos of AAF scenes taken during the months Allies were withdrawing before the Japanese advance through the Philippines, Netherlands East Indies, and New Guinea area, is asked to contact the Museum's Research Section, Wright-Patterson AFB, Ohio.

General Dynamics News

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Inquiries may be directed to GD/NEWS, Box 1950, San Diego, 92112.



BRITISH "CLASS" — Representatives from all parts of United Kingdom meet at Electronics operation in San Diego for 8-week radar training with Electronics - SD instructors. They are (from left) Max Leeds, Electronics; David Ellis; Art Zagon, Electronics program manager; Harry Shirley, Electronics; Chris Batten, John Crook, Eric Ross, Leonard Sparrow, Brian Bond. Training program will end in mid-December.

Variable Wings a Significant Breakthrough, Davis Declares

(Continued from Page 1)
suit any situation he faces.

"As of today," said the Fort Worth division president, "there are six Air Force (F-111As) and two Navy (F-111Bs) in flight test. Each of these aircraft has been delivered on or ahead of schedule.

"Actually, it has been possible to fly more hours up to this date than originally planned, which attests to the reliability and maintainability of the aircraft," said Davis.

"In addition," said Davis, "tests conducted on the aircraft and its many operational systems . . . have given strong indications that the weapons system will meet its operational objectives."

Davis said the F-111 development program consists of 23 aircraft: 18 Air Force and five Navy. He said that the purpose of the development program is to discover and correct problems impossible to predict from analysis, model and simulator testing.

He commented briefly on two areas, weight and engine compressor stalls, pointing out that problems of this kind are not at all unusual in a development program.

"Although the development program has indicated the necessity of some weight increases," said Davis, "approximately 5,210 pounds of excess weight (in the Navy production design) has been avoided by the institution of a vigorous weight control program, and the forecast weight has remained essentially unchanged since January, 1964.

"In addition," he said, "an aerodynamic improvement program was started to increase the maximum lift that the wing could provide. Its results have been spectacularly successful.

"Flight test results now indicate that sufficient improvement has been achieved in lift to offset the adverse effects on carrier take-offs and landings occasioned by substantially all the weight increases—authored by both contractor and government—since the General Dynamics proposal was submitted in 1962.

"Engine stall," said Davis, "is a difficult problem to diagnose from an engineering standpoint.

"Nevertheless, through the application of very sophisticated instrumentation it has been possible to sort out several contributing causes. At the present time it appears certain that modest changes in the airframe duct system and in the power plant itself will fully correct the problem.

"As a matter of fact," said Davis, "I am extremely pleased to have found so few problems of significant magnitude. It has already been possible to fly the airplane above Mach 2 and above 50,000 feet without yet having incorporated the changes we now know to be desirable.

"The fact that we will have incorporated on the 12th Air Force airplane and the fourth Navy airplane all significant changes expected for production aircraft indicates perhaps better than anything else, the ahead-of-schedule success of the development effort."

Service Center Bidding For Overhaul, Repair

(Continued from Page 1)
this spring's eclipse of the sun and the recent appearance of the Ikeya-Seki comet.

The Service Center is FAA-certified as a repair station for airframes. This certification will be broadened to permit repair of electrical, hydraulic and pneumatic components.

"Although we are presently working on Convair-built products, we intend to expand in all other types of aircraft," said Huntsman.

Huntsman, a veteran aircraft and missile man, is supported in his confidence of the success of the Service Center by his staff: R. G. Leigh, chief of administration; L. F. Lau, chief of operations; J. D. Tate, chief of quality assurance; J. J. Zathan, chief of material; and Lee Drake Jr., chief of program scheduling.

The Service Center occupies the former Convair Bldg. 3 at the north end of the Lindbergh Field plant. The building, together with certain field operations, including pits 1, 2, 3, and 4, are under the Service Center's jurisdiction.

Contained within the Service Center organization are the capabilities for program direction and scheduling, purchasing, material control, quality assurance, marketing, sales, estimating, budgeting and accounting. Other support services such as mail and maintenance services, industrial relations, plant engineering, telephone and other utilities are purchased from the Convair division.

Huntsman reports directly to Jack L. Bowers, Convair general manager, for overall administrative direction.

The Center is presently employing in the neighborhood of 400 persons.

Dynamics Speakers Address Societies

Two Fort Worth division employes spoke to professional societies in the area this month.

R. L. Johnson, director of flight and quality assurance, spoke on "The F-111 Flight-Test Program" to members of the American Institute of Aeronautics at Carswell AFB.

"Microbiological Corrosion" was the topic for Dr. H. G. Hedrick, project research scientist, before members of the American Electroplaters Society.

An Experience

Blackout at NY Headquarters Spells a Long Walk Down!

Corporate Headquarters in the General Dynamics building on New York's Rockefeller Plaza blacked out along with the rest of the city and much of northeast U. S. Nov. 9.

Scores who were still in the building at 5:28 p.m. when the power failed eventually reached ground level via stairs, but it was a long walk. From the 32nd floor to the ground there are precisely 676 steps, as counted by Mary Jane Gill!

The hero of the evening—or at least one of them—was Frank Ciofrone of the mail room. He led three groups down the stairs by flashlight. That meant climbing back up the stairs twice!

Heroine of the switchboard was Mrs. Nora McKinnon who stayed on duty until 11 p.m.

Most GD personnel eventually left the building but a half dozen spent the night sacked out on sofas, probably figuring that it was pointless to try to get home.

Mary Jane Gill had more reason than others to count the steps. That morning she had injured her knee in a sidewalk fall and made the descent with one leg stiff with bandages. So it was one step at a time.

"At street level all I could do was wonder if either leg would carry me farther," she reported. "But they did, and through the grace of Ray Joseph's husband, who had driven into the city to rescue us, I got as far as Queensboro Plaza, where Mary Flynn parks her car, and thence home in Mary's car!"

Jack Hurley's experience was typical of those who had left for home before the power failure. He was three minutes out from Grand Central when the train stopped. Battery power lighted the car and Jack spent the next eight hours playing gin rummy and lost $5.20. The game was called on account of darkness at 1:30 a.m. as the batteries gave up.

Ellen Murphy, caught in a stalled Queens-bound train, described the next 5½ hours as "actual terror—the only word I can use."

"At first everyone seemed unconcerned. After the first hour those who had been sitting began to offer the 'standees' a rest. We kept switching. By the third hour many started to panic. The temperature must have been 90 degrees—women were fainting, men began forcing doors."

Eventually, emergency crews led the 4,000 train riders a quarter of a mile along an 18-inch ledge to street level and fresh air. Two hours, two buses, and one auto ride later (1:30 a.m.) Mrs. Murphy was home.

"My husband met me at the door with a daiquiri in his hand!"

Sturdy 440, Tree Chunk Jammed Into Wing, Flies on and Lands!

Because Convair builds sturdy planes, four Scandinavian Airlines' crew members are alive to tell the story of a near-disaster.

The four, an instructor pilot and three trainees, credit the stout Convair-Liner for saving their lives when the 440 they were flying was severely damaged during a landing approach at Arlanda Airport, Stockholm, Sweden late last month. Although the plane received extensive damage to wings and fuselage when it hit treetops on the approach, the crew was able to pull it up and land it safely on another runway.

Wings, fuselage, horizontal stabilizer were penetrated by tree branches and trunks. A chunk of a pine tree, a foot through, was sheared off and remained in the crumpled right wing! But the Convair plane still flew!

Captain Esbirk, the SAS instructor pilot, conveyed his "heartfelt thanks to all at Convair who were responsible for the design and construction of an airplane with such structural integrity."

Knut Hagrup, SAS executive vice president-technical and operations, extended his appreciation to Convair management for the prompt assistance given SAS in assessing the damage and working out repair methods.

On the spot within hours were Ted Laven, GD Corporate European representative-sales, and Mel Clause, Convair customer service representative based at Zurich, Switzerland. T. L. Heid, Convair structures specialist, flew from San Diego to work out a repair plan. Convair service parts, under John Doig, was alerted on parts requirements which SAS will need to replace spares used to put the 440 back in operation.

Electronics Assn. Elects D. C. Prim

D. C. Prim, general manager of Electronics division operation in San Diego, is new secretary-treasurer of the San Diego Council, Western Electronic Manufacturers Association, following election early this month.

The association represents more than 350 electronic companies in the Western states.

When telephoning, never mind the weather. Get to the point. Telephone time costs money.



AT CONFERENCE — RAdm. E. E. Fawkes, USN, assistant chief of Bureau of Naval Weapons for research, development and evaluation, was principal speaker at recent Electronic Packaging Conference luncheon in Los Angeles. He was introduced by C. F. Horne, left, Pomona division president.

New Frontier of Deep Sea Awaits 'Bold and Brave' Says Roger Lewis

The maritime nations of the world are on the threshold of a new frontier, that of the deep sea, one which may be the greatest frontier of them all, Roger Lewis, General Dynamics president, said last month in an address before the 63rd anniversary dinner of the Navy League of the United States in New York City.



Roger Lewis

"The prize will be rich, but will it fall to us?" he challenged.

"We have competitors—bold, imaginative and competent . . . And they are hard at work to understand and to use for their own purposes the sea's bounty . . .

"If we are to be the first masters of the sea, there is no time to be lost . . ."

Lewis recalled that the first practical submarine was built for the U. S. Navy by John Holland in 1900, and since then the major burden of probing the mysterious deep has fallen on the Navy, driven by military necessity. He called attention to the recent development of research submarines for exploration at vast depths, and the Navy's Sealab II experiment off La Jolla, California.

Currently the Navy's oceanographic budget is $170 million and eight other governmental agencies will spend $70 million, with the entire national effort coordinated by the Interagency Committee on Oceanography.

"So far we have a pretty good start," Lewis said.

However, Lewis indicated grave doubt that the situation would necessarily continue with a "strong American flavor."

"The Dutch, Danes, Norwegians, British and Germans have divided up the oil rights in the North Sea . . . Russia is reported to have a fleet of 230 ships working in the marine sciences . . . France is planning man-in-the-sea experiments . . . Japan has had a 650-foot depth research submarine since 1960 and commissioned a 2,000-foot vessel last year . . ."

Although admitting America has had its sea triumphs (circumnavigating the globe under water, etc.) Lewis cautioned that "the race is still to the bold and the brave."

Mentioning that the national space budget for this fiscal year is nearly $3 billion, Lewis commented:

"Perhaps the time is not yet right for a national oceanographic program on the scale of the space program. Perhaps we do not yet know enough about this strange new world to mount such a priority effort and to spend such vast amounts wisely.

"But certainly we must mount a greater effort to explore and probe its farthest reaches than exists today . . . We need more tools, more effort, a wider scope. These are matters of vital national urgency NOW . . ."

★ ★ ★

"Experience has shown us that, in the fields of science and exploration at least, we are constantly overestimating what we can do in five years, and vastly underestimating what we can do in 30.

"But our thinking has to start somewhere . . . what are some of the possibilities of the vast deep sea frontier now opening before us?"

Following are some of the possibilities as foreseen by Roger Lewis:

Within **FIVE YEARS** we could:

Build swift research submarines to take scientists **anywhere** in the ocean for extended observation, measurement and photography.

Begin underwater mining of minerals and ingredients for fertilizer.

Develop new drugs, antibiotics and hormones from marine life.

Develop a world network of oceanographic buoys to collect surface and underwater data on temperatures, salinity and currents to be telemetered back to land on command. (A Navy-sponsored prototype of such a system has already been built and is undergoing sea trials off Florida.)

Begin transporting oil from wells beneath the Arctic ice cap.

Within **TEN YEARS** we could:

Develop nuclear submarines capable of 60-knot speeds.

Emplace underwater sonar beacons as submarine navigation aids.

Develop techniques to raise even the largest lost ships (perhaps by injecting buoyant foam into sunken hulls).

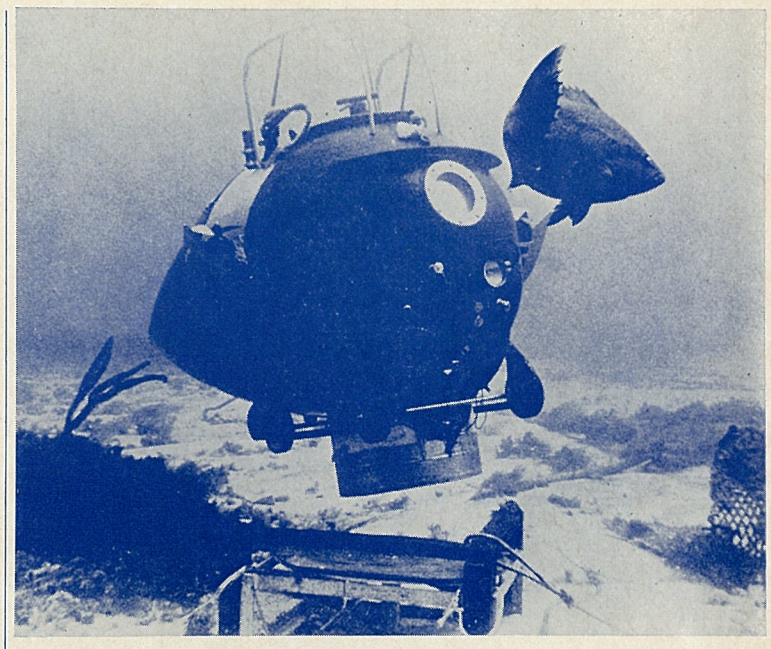
Develop scientific husbandry of sea food, improving the quality and quantity of lobsters, oysters and other marine delicacies in offshore farms and ranches, for example.

Develop systems to predict the weather and eliminate or divert destructive hurricanes.

Within **25 YEARS** we could:

Build underwater resorts from which vacationers could hunt game fish or prowl the oceans in mass-produced sport submarines.

Develop artificial gills that would let man reclaim directly from the sea the oxygen he needs for underwater work.



ON THE BOTTOM — Star I, General Dynamics' one-man research submarine, is currently on West Coast at GD's Marine Technology Center at San Diego. Note the curious fish.

GD's Cost Reduction Efforts Earn Citation

General Dynamics has received a certificate in "Recognition of Cost Reduction Participation" from National Aeronautics and Space Administration, signed by James E. Webb, administrator.



Dr. Silverstein



James Webb

Notification and the certificate came in letters to Roger Lewis, General Dynamics president, from Webb and Dr. Abe Silverstein, director, NASA's Lewis Research Center.

Dr. Silverstein wrote: "It is indeed a pleasure to inform you that the General Dynamics Corporation Cost Reduction Program has been approved by the NASA Cost Reduction Board . . . I certainly appreciate the interest and cooperation which your company has shown in this program."

Webb added: "The members of NASA General Management join with Dr. Abe Silverstein in thanking you for your very excellent efforts . . . We will look forward to your continued personal support in our effort to achieve economy and efficiency in the Space Program."

NASA 990 PURSUES COMET IN PACIFIC

A Convair-built plane, the NASA 990, carried a team of scientists in pursuit of the Ikeya-Seki comet to gather scientific information on the comet's chemical composition.

Convair's Jack Rogers, flight engineer, was a member of the crew who piloted the plane high above the Pacific Ocean for 13 days in a row to give its passengers a ringside seat at one of the most spectacular sights in astronomical history.

Another Convair man, J. E. Starling, field operations mechanic, was assigned to the task and accompanied the plane on most of its "comet-chasing" flights.

Dr. Michael Bader headed the scientists from Ames Research Center.

The plane, now known as the Galileo, took off each morning at 2 a.m. from Hawaii and flew at altitudes of 40,000 feet.

British Visitors See Convair Facilities

R. J. Atkinson, head of the structures department of the Royal Aircraft Establishment in England, and Dr. M. O. W. Wolfe of the British Embassy in Washington visited Convair's Kearny Mesa and Lindbergh Field facilities Nov. 11.

The two took part in informal discussions and toured Convair computer facilities and the materials laboratory at Kearny Mesa. Dr. D. J. Peery, Convair chief of structural analysis, was host.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

TOM WORTHY (1953) from Pomona division to Stromberg-Carlson as vice president-industrial relations. **ROGER BROWN** (1956) former industrial relations director for Electronics division and member of Corporate IR staff since April, 1965, succeeds Worthy as IR director at Pomona.

ROBERT J. LUTZ (1956) from Corporate Headquarters to engineering staff specialist, Convair; **CONRAD C. LINGENFELDER** (1952) from Convair to electronics project engineer, Electronics, San Diego; **KENNETH G. KOVER** (1957) from Convair to educational services, Pomona; **ROBERT L. BOTTOMS** (1961) from Stromberg-Carlson, San Diego, to design specialist, Convair.

EUGENE BARBIC (1952) from Pomona to research test engineer, Convair; **SHERMAN I. KLEIN** (1965) from Stromberg-Carlson, San Diego, to design specialist, Electronics, San Diego; **FREDERICK W. MATSON** (1941) from Convair to assistant foreman, receiving and stores, Pomona; **JOHN A. GASTLER** (1952) from Stromberg-Carlson, San Diego, to electronics data processing programmer, Electronics, San Diego.

DONALD M. DVORAK (1953) from Electronics, San Diego, to master schedules analyst, Convair; **BOYCE R. WILLIAMS JR.** (1963) from Convair to educational services, Pomona; **KANIE R. KEEF** (1953) from Stromberg-Carlson, San Diego, to foreman group V, Electronics, San Diego; **KEITH W. STROWIG** (1958) from Electronics, San Diego, to quality assurance, Pomona.



COMET TAIL — Photo by Convair's Grant Hansen shows Ikeya-Seki comet and its 75-million-mile "tail," reportedly the most spectacular to be seen since Halley's comet was visible in 1910. Stars appear as short dashes due to rotation of earth during exposure. Horizontal line of dots were from flashing light of an airplane passing through area while photo was being made.

Time Exposure Catches Comet With 75-Million-Mile Tail

An unusually clear Polaroid photograph of the Ikeya-Seki comet was made by Convair's Grant L. Hansen, vice president and Centaur program director, at 5:45 a.m., Oct. 29 from his home in the Mt. Helix area of San Diego.

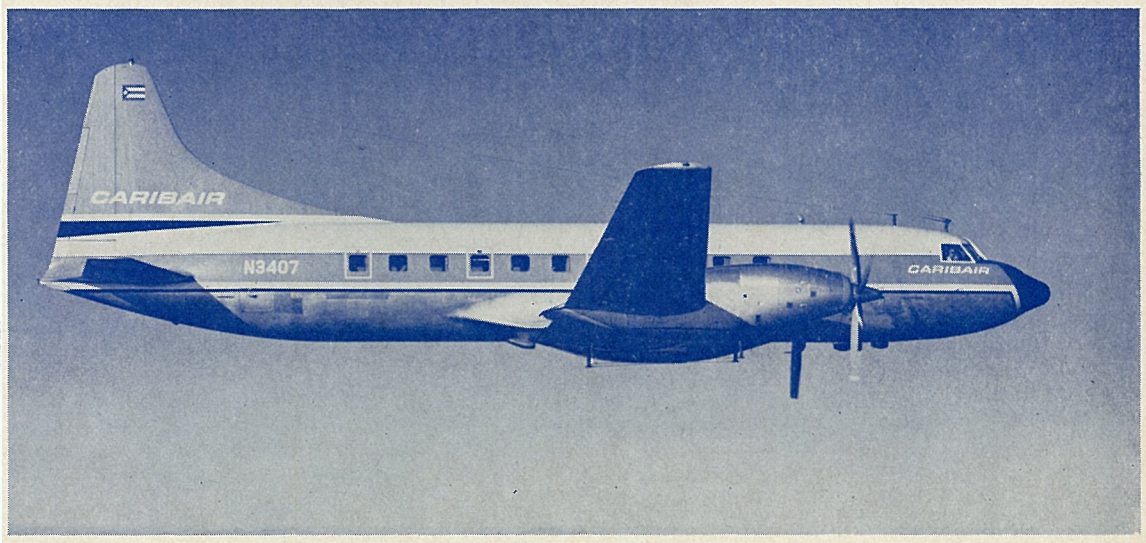
Hansen said he was looking through his binoculars when he realized the sight was "pretty spectacular" and set up camera and tripod.

He took six or seven shots of the comet with the best one being exposed while he "counted slowly to 150" or for about 2½ minutes. The photo shows the "tail" of the comet to be somewhat curved, probably as a result of the nearness to which it passed the sun.

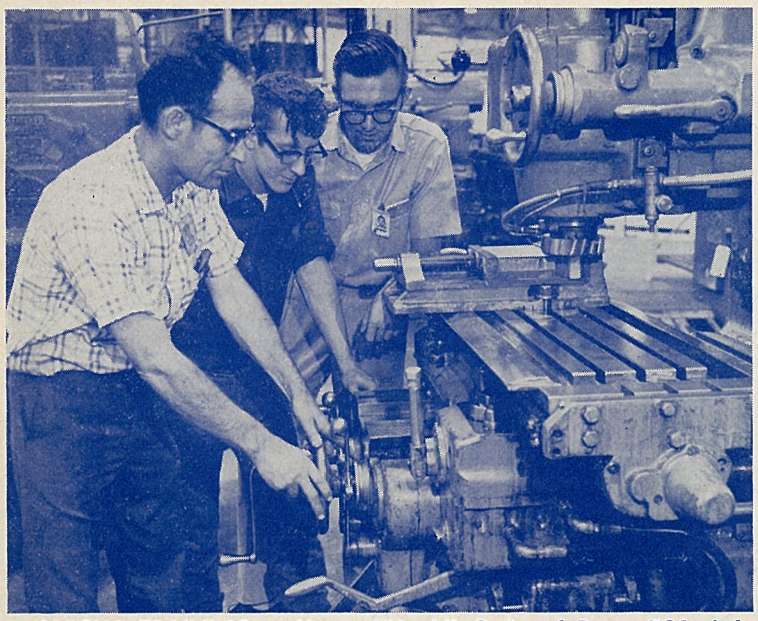
The "tail" is reportedly some 75 million miles long with the comet passing about 100 million miles from earth.

Centaur in the future may be mated with a high-energy Kick Stage and an Atlas SLV-3X to "probe" comet tails as well as to send probes weighing a few hundred pounds to planets such as Jupiter, Saturn and Mercury and to the sun.

"Comets are something we don't know much about," Hansen said. "It will take a fairly high energy vehicle to make comet-tail probes."



FLYING HOME — First Convair 600 for Caribbean Atlantic Airlines, Inc. (Caribair) converted in Convair Service Center to turbojet version powered with Rolls-Royce Dart engines, has flown from San Diego to home base at San Juan, Puerto Rico. Altogether, nine of Caribair's Convair-Liners will be converted to Convair 600s.



SPECIAL TRAINING — Henry "Hank" Ostin of Dept. 731, left, gives instruction on vertical milling machine operation to Jim Harding, 22, center, and William Spurlock, 19. Harding and Spurlock are among 52 young men to receive on-the-job training under contracts with the Mayor's Committee for Jobs, Inc.

Young Men Get On-Job Training In Federally-Backed Program

Fifty-two previously unskilled young men will be trained as airplane mechanics and milling machine operators at Convair and Convair Service Center under contract with the San Diego Mayor's Committee for Jobs, Inc.

Trainees in both programs will receive 1,040 hours of on-the-job and related classroom instruction during a 26-week period.

The Mayor's Committee has a prime contract with the Department of Labor to place 700 such youths in on-the-job training programs in industry and service trades in San Diego, in accordance with provisions of the federal Manpower Development and Training Act.

Convair signed the first training contract with the Mayor's Committee, which last month had in effect 40 similar contracts under which 106 trainees were learning 25 different occupational skills in 11 different kinds of businesses throughout San Diego.

Firms participating in the training programs receive partial reimbursement of their cost of training the youths to fill positions in which there is a shortage of trained personnel.

Twenty-four airplane mechanic trainees will be employed at Convair Service Center, Lindbergh Field, in the Convair 600 conversion and F-102 refurbishment programs.

They will receive 72 hours of classroom instruction and approximately 200 hours of on-the-job training in basic structural assembly, 160 hours in aircraft cleaning and preparation, 120 hours in basic mechanical assembly, 160 hours in removal and installation of mechanical components, 120 hours in mechanical system checkout, 160 hours in mechanical overhaul and 120 hours in general airplane electrical work.

Crew chiefs Vernon Issac, L. R. Imbimbo, John Morey and Fred Yarick are the on-the-job training instructors.

The 27 milling machine operator trainees are working in Dept. 015 at Lindbergh Field and Depts. 731 and 452 at Kearny Mesa.

They will have 72 hours of classroom instruction, including study of math and blueprint reading.

Their on-the-job training will include approximately 160 hours each on vertical and horizontal milling and approximately 120 hours each on slab, face, straddle, tracer and slot milling and scarfing.

Their on-the-job instructors, who spend full time with them during the first four weeks of training and will spend progressively less time with them as they become more proficient, are William Sileneck and Stanley S. Jensen of Dept. 015, Jerry Churness of Dept. 452 and Henry Ostin and Dick Reed of Dept. 731.

Classroom instruction for the trainee groups is being given by Wayne Turner, Ed White and Harry Miller of educational services.

Jack A. Croft, chief of educational services, said the California Department of Employment is providing initial screening and aptitude tests for the trainees.

"Prospects are then referred to us for interviews and we are selecting those we believe will be best suited for the training programs," he said.

Many of the young men in the two programs have had high school shop training but no related job experience. Several have completed military service and some are married with children.

"We have found them to be highly motivated and extremely productive by the end of the first four weeks of training," Croft said. "Their supervisors are well pleased with their work."

H. W. Rubottom, chief of educational services at Convair until his retirement in 1964, is project director for the Mayor's Committee. The training program contracts are supervised by N. T. Jordan, local area representative for the U. S. Department of Labor.

Electric Boat division has been particularly active in the MDTA program, more so than any other GD division. Currently there are approximately 1700 trainees at Groton alone, not including the Quincy Yard.

Air Force 102 At San Diego to 'Lead Two Lives'

An Air Force F-102 is "floating" in Convair's structures laboratory at the Harbor Drive Test Site in San Diego as it is put through fatigue cycling tests under a contract from San Antonio Materiel Area, Kelly AFB, Texas.

The complete testing program, which began last month, will extend to April, 1966, and subject the plane to the equivalent of two aircraft lives in flight and 10,000 landings.

First section of the fatigue cycling program, now under way, is airloads testing in which the aircraft is suspended from the ceiling and loads applied to the wings and fuselage to simulate actual flight loads. The plane is delicately balanced by application of upward and downward loads to achieve a floating condition, as if it were in flight, explained Ed Schiff, group engineer at the structures lab.

In the second period of the program the F-102's landing gear structure will be loaded while the plane is tied down rigidly.

The plane will be carefully inspected at scheduled intervals throughout the entire cycling program. In fact, as much or more time will be devoted to checking the plane's structure as is given to actual cycling, Schiff said.

During the airloads cycling, access doors will be removed during minor checks and in major checks, leading edges, elevons, spar attaching bolts disassembled and the dummy engine partially removed.

At conclusion of testing, all the skin will be stripped from one side of the wings for a minute inspection of the entire structure.

Surfaces of the plane are instrumented with strain gauges to indicate change of stress patterns and crack-detection wires, as fine as human hair, are glued to critical areas of the structure. Engineers are alerted to cracks in these areas when electrical current through the wires is broken.

The spectrum of different load levels scheduled for both the airloads and landing gear structure tests will be applied by the structures lab's closed-loop programming system.

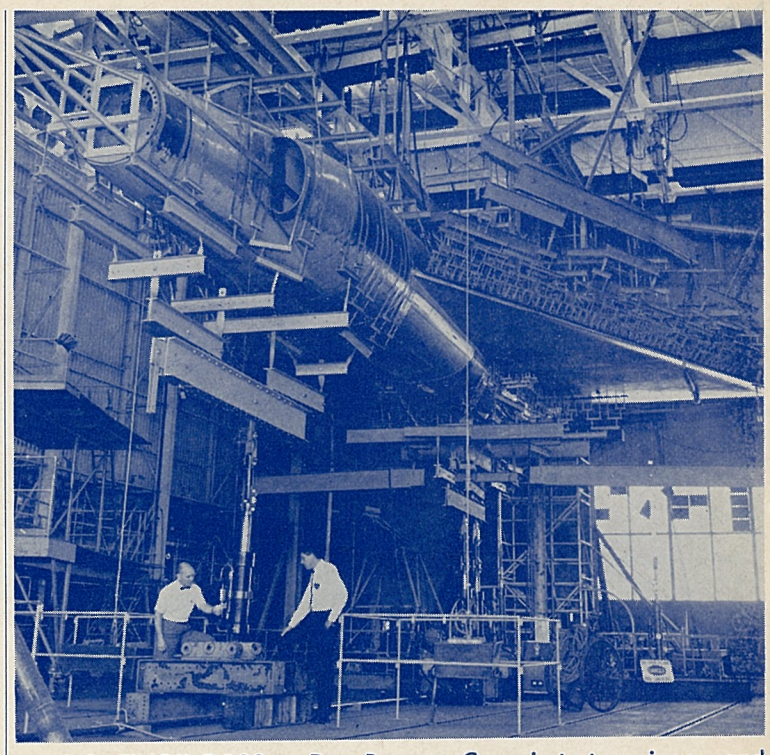
Testing will be around the clock, 24 hours a day, with three shifts working day and night through the work week under direction of W. D. Bowers, test engineer on the program.

Ex-Military Pilots Sought to Fly C-119s

Former military pilots are being sought by the 944th Troop Carrier Wing, U. S. Air Force Reserve, to fly C-119 aircraft from March AFB near Riverside.

Immediate openings are for pilots up to and including the grade of major. Former Navy, Marine and Coast Guard pilots also may be accepted. Training periods are held one weekend a month with two weeks of active duty in the summer. Thirty-six additional four-hour training periods also are authorized during the year.

Further information can be obtained by contacting Norman Gassman of Convair division, Kearny Mesa plant, ext. 4461.



"FLOATING" F-102 — Don Bowers, Convair test engineer, and Ed Schiff, structures lab group engineer, check hydraulic loading cylinder at test set-up which will put Air Force F-102 through fatigue cycling — approximating two aircraft lives.

'Quick Reaction' Lab Handling Short-Run Production Orders

Electronics division at San Diego is producing "one-of-a-kind" electronic assemblies in jig-time in its "Quick Reaction Capability" laboratory, a research and development electronic shop set up for expediting short-run production orders.

D. C. Prim, Electronics-SD general manager, when he authorized the QRC lab in 1964, saw the need of a specialized facility with full and flexible capabilities for producing deliverable equipment.

At that time, Frank Berry, foreman, and five technicians were assigned as a nucleus. The force since has expanded to 47. All are qualified electronic and electrical technicians with from three to five years' experience in the advanced electronics field.

They work in the closest conjunction with design engineers during original design and incorporate design changes as they are made during product development. This allows resolution of problems with minimum of time and paperwork and provides a short lead-time between design and hardware delivery to the customer.

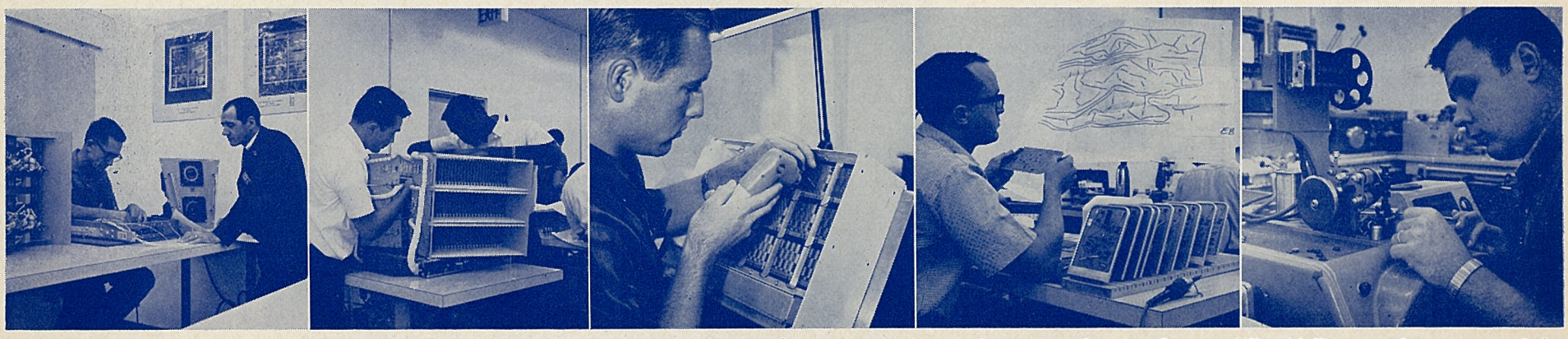
QRC facility, a part of Electronics operations but in no way connected with the regular production assembly-type operation, swings into action with a work support authorization the instant the signal is given after "design freeze" meetings.

Design changes are incorporated during fabrication and build-up of chassis with engineers giving instructions over technicians' shoulders, if necessary. When assemblies are completed, inspected, and tested, prints are corrected and the hardware-drawing package is sold off.

Programs now going through the unique shop facility are chassis and cabinets for Apollo Instrumentation Ships; components for NASA's Application Technological Satellite Range tracking system; G transponders and enhanced S-band transponders (small electronic packages used aboard missiles and satellites); Glotrac tracking system checkout set, spares, and modification kits; self-contained ground surveillance radars; Terrain Following Radar test set; and various types of coils and transformers for a wide range of programs.



QUICK ACTION — Electronics - SD's unique and flexible shop, Quick Reaction Capability laboratory, contains all necessary functions for production of "one-of-kind" electronic assemblies from design to delivery.



QRC AT WORK — From left, Technician Floyd Frost, wires relays on antenna relay chassis, working from electronic schematic diagram, with Frank Berry, foreman of Electronics - SD's Quick Reaction Capability lab, observing. In next shot, Gerald Orndorff and Joseph Kelly, electrical and radio technicians, make adjustments on data multiplexer electronics chassis. Center, Mike Neil uses wire wrap tool for solderless connections in "time-of-year" chassis for NASA program. In next photo, John Gish compares electronic circuit board with blown-up layout for board assembly. At far right, Dave Weigle winds transformer on bobbin winder.



FIVE MILLION — D. O. Brending, Stromberg-Carlson district sales manager, (right) presents plaque to George Bynum, North American Aviation Corporate director of electronic data processing, (left) marking one-million feet of data output on S-C 4020 Computer Recorders at five North American divisions. In center is Will Olson, assistant director of EDP for NAA General Offices.

North American Process Centers Pass Million Ft. Mark on S-C 4020

Representatives of five North American Aviation electronic data processing centers were presented plaques recently by the Data Products Division of Stromberg-Carlson Corp., for their extensive use of S-C 4020 Computer Recorders.

Each award acknowledged that an NAA electronic data processing facility has produced over one-million feet of graphical data output on the S-C 4020 which Stromberg-Carlson manufactures. Awards were presented at a dinner meeting at the Sportsman's Lodge in North Hollywood, Calif.

Four of the high-speed recorders are in use by NAA divisions in the greater Los Angeles area.

A special "five-million feet" award was presented George Bynum, NAA Corporate Director of EDP.

Jet Propulsion Laboratories also was awarded a plaque recently for producing more than one million feet of graphical output on the S-C 4020.

The S-C 4020s translate computer-generated digital codes into graphs or ordinary language and record the data directly on microfilm or photorecording paper.

Division Representatives Meet For Panel on Reliability

Representatives from many General Dynamics' divisions across the continent attended a meeting of the Panel on Reliability at Pomona Nov. 1-3.

A total of 63 management personnel from quality control, reliability and engineering organizations represented Electric Boat, Convair, Electronics, Pomona, Canadair, Stromberg-Carlson and Fort Worth divisions.

Guest speakers included LCol. Fred D. R. Sparrevohn, deputy chief Los Angeles Contract Management District, DCAS, who spoke on defense contract management, and Col. J. G. Fussell of Norton AFB who talked on "Applications of Quality Control to Safety."

J. Y. McClure, Corporate director of reliability, quality control and value engineering, presided at the Monday session of the entire panel. C. F. Horne, Pomona division president, welcomed the representatives and G. E. Sylvester, Pomona division vice president-operations, spoke on "What Manufacturing Management Expects of Quality Control."

Three sub-panels held separate meetings on Tuesday and Wednesday. Presiding were the sub-panel chairman: T. F. Fore of Pomona, reliability technical; H. J. Stuart of Pomona, quality control; A. J. Woodington of Convair, metrology.

Other presentations included:

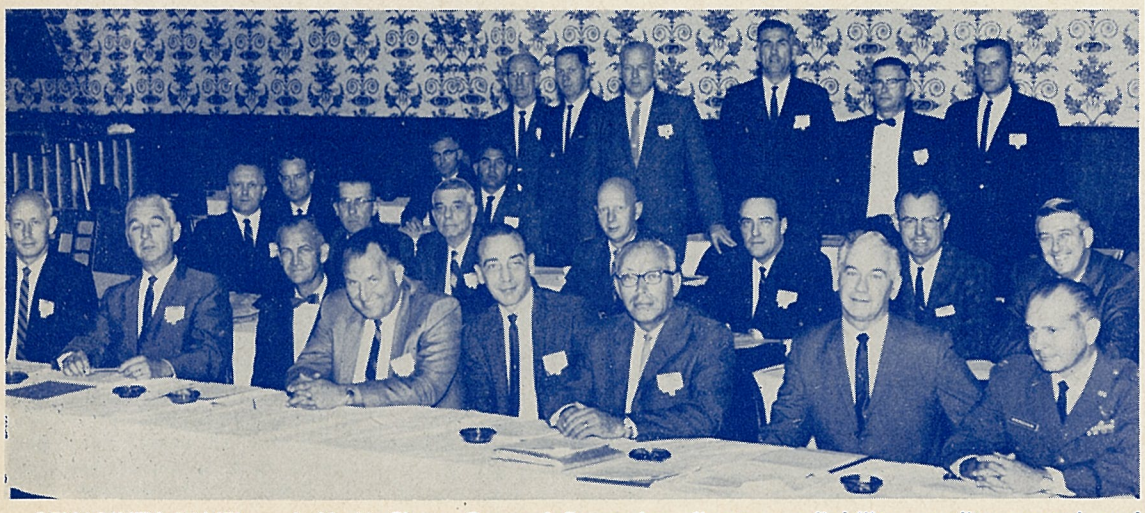
"Program Management Considerations," J. C. Bear, Pomona; "Submarine Certification for Sea Trials," O. R. Goode, Electric Boat; "Little Joe—A Cost Effectiveness Program for NASA," W. L. Johnston, Convair; "Activation Analysis," Robert Watkins, General Atomic; "System Safety Requirements," I. E. Wissner, Convair.

"Field Experience and Design Considerations for Electronic Switching Systems," William Karas, Stromberg-Carlson; "Production Vibration Testing," W. H. Kirk, Convair; "Implementation of Reliability Controls" and "Supplier Incentives and Trade-Offs," Dr. N. H. Simpson, Fort Worth.

"Dormant Missile Systems Story," P. J. O'Leary, Convair; "Integrated Circuit Specifications and Design Progress Report," R. E. Martin, Pomona; "Reliability Incentive Demonstration Tests," S. R. Gladstone, Pomona; "Red-eye Test-to-Failure Program," L. C. Baldauf, Pomona.

"Quality Control and Reliability Measurement Questionnaire," E. R. Weiher, Fort Worth; "Resistance Welding Control," F. J. Weigand, Convair; "Quality Assurance of Parts Made by Numerically Controlled Machines," Bryant E. Justice, N. Y. Hdqtrs., and J. F. McDonnell, Pomona; "Setting Quality Goals," G. M. Ellis, Pomona; "Supplier QC Working Committee Report," R. B. Davis, Pomona; "Canadair Problems," George Schwab, Canadair.

"Metrology Audit Program, BUWEPS," Algird Stephan, BWR, Pomona; "Update Organization Charts," W. R. Holmes, Electric Boat; "Update Procedures Index," E. F. Peacox, Electronics; "Test Equipment Lists," L. J. Sass, Electronics; "Calibration Interval Procedures," R. A. Winterkorn, Stromberg-Carlson; "DCAS Approach to Metrology," C. Stransky, DCAS representative.



RELIABILITY PANEL — J. Y. McClure, General Dynamics director, reliability, quality control and value control, presided at meeting of GD Panel on Reliability held at Pomona division Nov. 1-3. Chairmen of sub-panels were A. J. Woodington, Convair, metrology; T. F. Fore, Pomona, reliability technical; and H. J. Stuart, Pomona, quality control. Some 60 delegates from seven GD divisions and New York Hdqtrs. attended three-day conference.

Study Contract Aims at New Plane Potential

Convair engineers are studying performance potential and feasibility of development of a hydrogen-burning, air-breathing airplane that would cruise at several times the speed of sound and might fly from Los Angeles to London non-stop in 1½ or 2 hours.

The nine-month study contract is being carried out as a 17-man effort under a $200,000 contract under direction of NASA's Mission Analysis Division at Moffett Field, Calif.

Frank E. Jarlett of Dept. 581-5 at Kearny Mesa is program manager working under direction of R. A. "Dick" Nau, acting manager of advanced launch and reentry systems.

During the first four months, the group is studying four basic vehicle designs, 100 to 400 passenger capacities, 2,000 to 8,000 miles-per-hour speed ranges, cost of development of such craft and sonic boom problems. Variable sweep-wing configurations and various propulsion system considerations will be included.

Mission Analysis Division representatives will be at Kearny Mesa on Jan. 6 for a briefing on the first phase.

The following five months will be devoted to more detailed study of the two most promising vehicle designs in order to determine the best of the two systems and define critical research areas for possible later detailed studies.

Since outside temperatures of a hypersonic aircraft would reach more than 1,000 degrees Fahrenheit, such a plane would probably have no windows and nickel alloys would be used for both body and wings. The metal would have a red "glow" during flight.

Jarlett said the liquid hydrogen fuel storage area will dominate the designs with as much as 80 per cent of the fuselage area being allocated to fuel storage.

The hypersonic transport would perform much like current subsonic jets, taking off from conventional airports and landing under power. Liftoff speed would be about 160 knots and landing speed about 135 knots.

While subsonic jets make the Los Angeles to London run in about 12 hours, the supersonic transport now being planned will make the flight in about 4½ hours and the hypersonic transport in about 1½ or 2 hours.

Liquid hydrogen is considered advantageous as a fuel because of its high energy content and its ability to absorb heat. Advances in present technology will be necessary, however, before a hydrogen-fueled aircraft becomes a reality.

Small Business Program Praised

Convair's small business and labor surplus area program has been rated "outstanding" by the U. S. Air Force.

The rating was announced following a team review by the Western Contracts Management Region of the U. S. Air Force, the local Air Force Plant Representative's office and the local Small Business Administration office, as well as subsequent surveillance of the Convair subcontracting program.

The Air Force, in a letter to H. E. Moose, Convair director of material and small business and labor surplus area liaison officer, said Convair's aggressive efforts to promote the small business and labor surplus area program has "significantly improved the position of small business in competing for subcontracts."

"Small businesses are particularly important to our programs," Moose said. "Our programs are highly diversified and frequently involve short-run production. We find the small, specialty supplier particularly responsive to our needs."

V. O. "Ole" Olson, Kearny Mesa small business administrator, credits the operation of Convair's supplier evaluation and information center in part for the excellence of its small business and labor surplus area program.

Under this program, Convair also has achieved an "industry first" by developing a refined system for storing and retrieving suppliers' capability data.

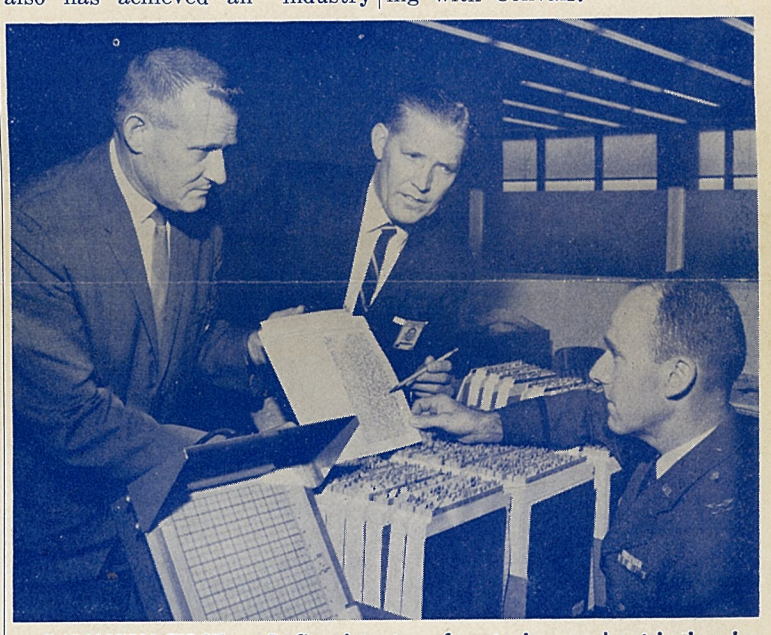
"When seen in action, it is obvious this system serves the interests of suppliers as well as of Convair by assuring timely consideration of their capabilities," Olson said. "It is particularly helpful to the small firm that does not have a sales force or catalogues."

The system consists of commodity cards, a hole puncher and a viewing device. Each hole in one of the commodity cards indicates a vendor with a specific capability.

Placement of a translucent grid pattern over the commodity cards in the viewer allows for a speedy decoding of vendor names for use in preparing bid lists. At present, more than 6,750 suppliers' capabilities are coded on more than 3,000 commodity cards. Of the supplier firms, 5,046 are small business firms.

"With this system, we can sort through 50,000 pieces of information about vendor capability in five minutes," Olson said. "A small business firm and its capabilities are never forgotten once they are incorporated into the system."

Convair now is awarding subcontracts to small business suppliers in almost every state. Within San Diego County alone, there are 617 small business firms dealing with Convair.



INDUSTRY FIRST — Refined system for storing and retrieving information on suppliers' capabilities is explained by H. E. Moose, left, Convair material director, and V. O. "Ole" Olson, Convair small business administrator, for Col. James R. Ourand, Air Force Plant Representative.

RAdm. Sarver Relieves RAdm. Reich In Surface Missile Systems

Two U. S. Navy officers, well known at Pomona division through their long-time close association with the Tartar and Terrier missile programs, were principals in a recent change of command in which RAdm. Ben W. Sarver relieved RAdm. Eli T. Reich as Director, Surface Missile Systems Project, Office of Naval Material.

Admiral Reich, who is now Commander Anti-Submarine Warfare, Group Five, commanded the Terrier-armed guided missile cruiser USS Canberra (CAG-2) from October 1960 until December 1961 when he became Assistant Chief of the Bureau of Naval Weapons for Pacific Missile Range and Astronautics. In February 1962 his title was changed to Assistant Chief of the Bureau of Naval Weapons for Surface Missile Systems and in December 1963 became Director, Surface Missile System Project, which included management of the Terrier and Tartar programs.

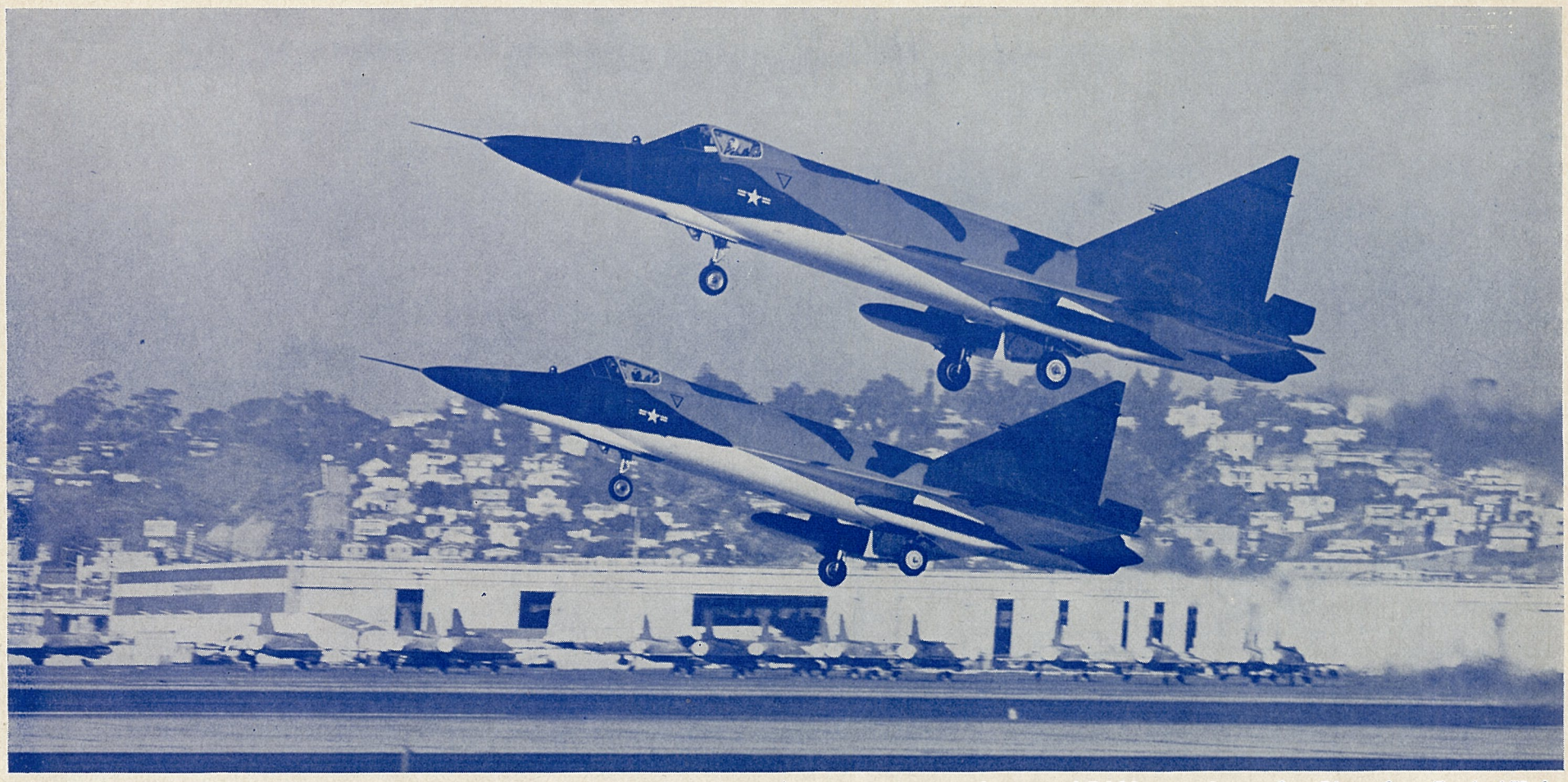
Earlier this year, Admiral Reich was awarded the Distinguished Service Medal for his work as Director of the Surface Missile Systems Project.

Admiral Sarver commanded the USS Norton Sound from September 1959 to June 1960 at a time when that ship was active in the Tartar and Terrier flight test programs. He was detached from the Norton Sound for duty in connection with the conversion of the USS Oklahoma City and assumed command of that guided missile light cruiser upon her recommissioning Sept. 7, 1960.



RAdm. Reich RAdm. Sarver

From July 1961 to June 1963, Admiral Sarver served as Missile Development Officer in Bureau of Naval Weapons, after which he commanded Cruiser Destroyer Flotilla Four. He also served as Commander, Navy Task Force One Hundred Forty, the recovery group for the first five Gemini flights.



DOUBLE TAKE-OFF — Twin F-102s, alike as peas in a pod in camouflage dress, were caught by Convair Photographer Pete Autio as they lifted, seemingly together, from Lindbergh Field flight line late last month. Convair-built jet interceptors are part of group of F-102s returning to San Diego from Travis AFB for new paint job. Air Force pilots fly planes to San Diego and back to Travis. Painting is being done by Convair Service Center.

Brainpower, Equipment Pooled In Drive For Surveyor Success

When the Surveyor SC-1 spacecraft makes a soft landing on the moon, much of the credit for success can be traced directly to joint effort and close cooperation between personnel from NASA's Lewis Research Center, the Jet Propulsion Laboratory, Hughes Aircraft Co. and Convair.

Convair's Atlas-Centaur Seven will launch the Surveyor from Complex 36-A at Kennedy Space Center and send it down the Eastern Test Range and into its 240,000-mile trajectory to the moon.

The SC-1 Surveyor engineering model will be enclosed in a Convair-built nose fairing mounted atop Centaur.

Bob Benzwi, chief of Centaur payload integration, said cooperation among personnel from the four organizations concerned has been excellent.

"Success of the mission has been the sole objective of all," he said. "In each of our jointly conducted tests, personnel from NASA, JPL, Hughes and Convair have acted as one team, pooling brainpower and equipment to the fullest."

The Surveyor SC-1, being built by Hughes under contract to JPL, is now undergoing extensive testing prior to being shipped to Kennedy Space Center.

An engineering prototype, designated T-21, in May was put through a series of combined systems tests with the Atlas and Centaur in NASA's Combined Systems Test Stand at Kearny Mesa.

The tests, a part of the Surveyor Pathfinder program, demonstrated for the first time not only the compatability of the Atlas, Centaur and Surveyor systems but benefit of the CSTS itself.

Joint effort in the Pathfinder program was concluded at Kennedy Space Center where a simulated launch countdown was conducted and "sniffer" toxic gas detectors were calibrated in an "operational environment."

Hypergolic fuels to be used in the Surveyor vernier engine system are highly toxic. The "sniffer," built by Hughes and installed by Convair, will be used to alert launch personnel in case of leaks.

Benzwi said current important joint activity being conducted at Kennedy Space Center includes electro-magnetic interference tests to ensure that electrical systems of the three vehicles are compatible.

Cooperation between Convair and the other organizations also was evident during the preparation and August 11 "perfect launch" of Atlas-Centaur Six, which placed a "dynamic model" of Surveyor into a trajectory toward a "simulated moon." The model was jointly developed with Convair building the retromotor simulator and Hughes building the spaceframe and its instrumentation.

Because of the accuracy with which Centaur injected the "dynamic model" into its trajectory flight path, less than 10 per cent of the Surveyor's correction capability would have been required to have hit the desired impact area on the moon.

Surveyor SC-1 is to land on the lunar surface about 63½ hours after liftoff.

The Atlas booster is to drop away about 2½ minutes after liftoff with the Centaur insulation panels and nose fairing to be jettisoned early during the Atlas sustainer phase.

After a total Atlas flight of about four minutes and a Centaur "burn" of about 8½ minutes, the Surveyor will be injected into its lunar flight path over the Atlantic near the coast of Africa.

While the Centaur mission is being completed, Surveyor will search out and "lock on" to the sun and the star Canopus for navigational aid, then will undergo a series of maneuvers on command from the JPL Goldstone Tracking Station in California's Mojave Desert.

Lunar landing operations will begin 63 hours into flight. Firing of retro and vernier engines will slow the Surveyor from 8,900 feet per second down to about 5 feet per second and position it for a soft lunar landing. Two television cameras are to make photos during the descent.

The Centaur vehicle will bypass the moon as the Surveyor lands.



LUNAR LANDER — One-tenth-scale model of Surveyor spacecraft scheduled to ride atop Atlas-Centaur and make a soft landing on the moon is examined by Ronald Rovenger, left, NASA resident manager and Centaur assistant program manager, Bob Benzwi, center, chief of Centaur payload integration, and Grant L. Hansen, vice president and Centaur program director.

Safety Engineers From GD Divisions Exchange Techniques

F. R. Temple, FW chief safety engineer, recently represented General Dynamics at the first employe safety subcommittee meeting of Aerospace Industries Association in Washington, D. C.

"New federal regulations, laws, standards and industry hazards—with suggested safeguards—were reviewed," Temple said.

Temple also attended the National Safety Congress and the annual meeting of American Society of Safety Engineers in Chicago. He is a national director.

Following the latter meeting, the following safety engineers from various General Dynamics divisions met to exchange ideas: George Milne, Canadair; Jack Garrison, Convair; B. G. Bonner, General Atomic; Arvid Tiensen, Material Service; and Temple.

F-111 No. 5 in Florida For Subsystems Test

With the governor of Florida and a host of military dignitaries looking on, F-111 No. 5 winged into Eglin AFB late last month to begin another phase of testing for the variable-wing fighter.

Full-scale subsystems testing of the electronic counter measures and traffic-control systems will be carried out in the months ahead.

Gov. Haydon Burns was hosted by Maj. Gen. James E. Roberts, Air Proving Ground Command commander, and C. C. Widaman, Fort Worth division base manager at Eglin, during official "unveiling" of the F-111 following its arrival.

"Immediately after taxi-in, Charlie Gates of Dept. 507 and his maintenance crew started preparing the airplane for a static display and its first off-site flight," Widaman said.

The airplane had a "very productive first flight" the following day, with Earl Guthrie, Dept. 152, and C. B. Cox, Dept. 567, at the helm.

During the static display at the base, Governor Burns swept the F-111's wing as some 150 state and local dignitaries and representatives of news services looked on.

Ferrying the F-111 from Fort Worth to Eglin were Guthrie and Maj. H. M. West. Before landing, the crew made two low-level flybys—one with the wing extended, the other with the wing fully swept.

"Many of the onlookers were taking their first look at the F-111," Widaman said. "'As you can imagine, the flybys and taxi-in gave them quite a thrill."

Col. C. L. O'Bryan, APGC vice commander, was on hand to greet the crew.



CEREMONY — Eglin Base Manager C. C. Widaman presents Florida Governor Haydon Burns, second from left, with F-111 model during plane's "unveiling." Military dignitaries included Maj. Gen. James E. Roberts, left, APGC commander, and Lt. Col. Gerald T. Rogers, chief fighter systems division F-111.

Bright Idea

Little Joe Part Goes to Hospital To Keep Schedule at White Sands

A Little Joe II launch vehicle part was rushed to the hospital at Las Cruces, N. M., on Veterans' Day — not for stomach trouble but to keep launch preparations on schedule at White Sands Missile Range.

According to an account in the Las Cruces newspaper, NASA's test director at White Sands, H. R. Van Goey, faced a day's delay when all X-ray facilities at the base were closed on the holiday.

Quoting the Las Cruces news story: "He remembered the extensive X-ray equipment at Las Cruces Memorial General Hospital used to investigate his ulcers last summer and contacted his physician to set the unusual request in motion."

Within an hour the "patient" had been X-rayed and the operation termed a success.

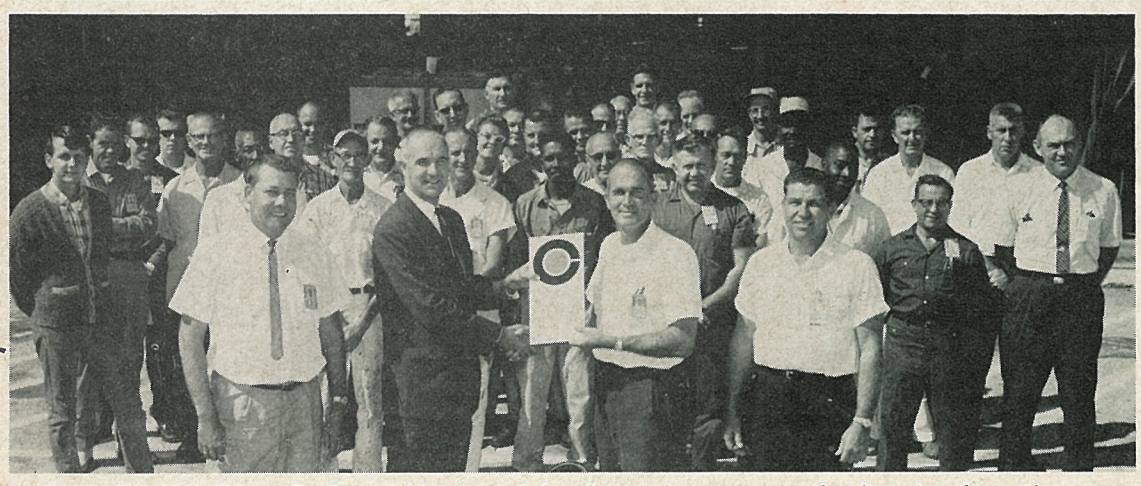
The Convair-built Little Joe II is being readied at White Sands for an early December launch in a series of tests of the Apollo escape system.

The coming test will see an actual Apollo command module, such as will house three astronauts in a trip to the moon, used for the first time.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 24 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, November 24, 1965



CAPE CRAFTSMEN — Craftsmanship Award for September was won for first time by maintenance and machine shop section of operations support. Jack Bowers, Convair general manager, is shown presenting award to Bob Lucas, foreman. Jim Sims, assistant design group engineer, and Bill McClure, assistant foreman, participated in ceremony at Cape Kennedy.

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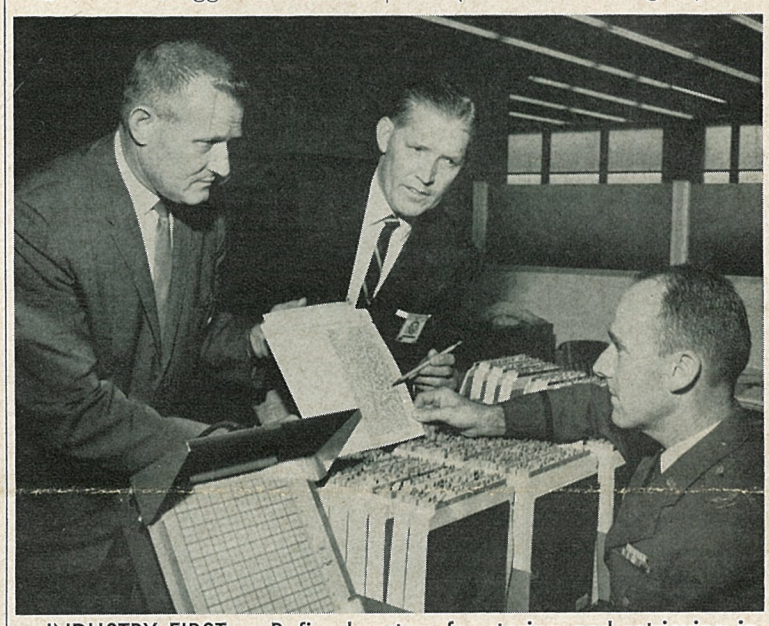
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(Continued on Page 2)



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Service Center Bidding For Overhaul, Repair

Convair Service Center, established as a separate organization for the modification, repair, and overhaul of airplanes and aerospace products, is off to a good start and going strong with a backlog of work piling up.

"We are extremely optimistic about the future of this type of business," said E. J. Huntsman, manager. "Initial operations have proved that it is good business for the Corporation and San Diego, as a whole. Since it is specifically designed for repair-type work only, not manufacturing, the Service Center is bringing contracts into this area which otherwise could not have been accomplished here."

The Service Center's first task, the 4,000-hour overhaul of Federal Aviation Agency's Convair 880-M, was completed right on schedule and delivered in late July.

Work currently under way includes conversion of 25 Convair-Liners to the turbojet Convair 600 version powered by Rolls-Royce Dart engines. Orders on hand are for installation of propulsion and APU kits into nine Caribair 340s, seven Hawaiian Airlines' 340s, eight Central Airlines' 240s, and a Convair-owned 240.

Caribair's first Convair 600 was delivered last week. A second Caribair Convair 600 is due out before the end of the year. First Convair 600 to go to Hawaiian Airlines will move out late this month and Central Airlines' third Convair 600 (the first to be converted at the Service Center) is scheduled for Dec. 20 delivery.

Before the end of this month the Service Center expects to have delivered the first 10 of the 61 F-102s and six TF-102s it is removing protective covering and preparing for flight for San Antonio Air Materiel Area.

The work is well ahead of schedule, said Huntsman, with the first plane delivered Nov. 5, 10 days ahead of schedule. And, by the end of this week a total of 10 were to be delivered or ready for delivery.

Fifty-three of the F-102s are in-plant with nine in work at all times.

In an add-on to the SAAMA order, other F-102s have been flown to San Diego from Travis AFB for painting.

Also at the Service Center now for refurbishing and routine maintenance is the NASA 990, built by Convair and used for scientific research during both this spring's eclipse of the sun and the recent appearance of the Ikeya-Seki comet.

The Service Center is FAA-certified as a repair station for airframes. This certification will be broadened to permit repair of electrical, hydraulic and pneumatic components.

"Although we are presently working on Convair-built products, we intend to expand in all other types of aircraft," said Huntsman.

Huntsman, a veteran aircraft

(Continued on Page 2)

Convair 600/240 Approved by FAA

The Convair 600/240 has been approved by Federal Aviation Agency for revenue flying.

FAA officials signed the type certificate the middle of last week after the 600/240 prototype completed its certification program. The craft now has gone to the factory for refurbishment before delivery.

The Convair 600/440 prototype is continuing its flight testing for FAA certification.

SD Electronics Appoints Two To Top Posts

Appointments to two top management posts in Electronics division's operation at San Diego were announced early this month by D. C. Prim, SD general manager.

William J. Hemmer has been named manager of operations and F. Lee Edwards, manager of marketing-sensor products. Hemmer reports directly to Prim and Edwards to John D. Phelan, Electronics-SD manager of marketing.

Hemmer comes to Electronics from Daven Co., a division of McGraw-Edison Co., Livingston, N. J., where he was manager of manufacturing the last couple of years. For four years before that, 1960-64, he held the same posi-



W. J. Hemmer F. L. Edwards

tion with General Mills' Electronics Division, Minneapolis, Minn.

Before joining General Mills he had extensive background in electronic assembly and manufacturing at AVCO Crosley's Electronics Division, Cincinnati, Ohio; ITT Missile Electronics Division, Ft. Wayne, Ind., and ITT Federal Radio and Telephone Corp., Clifton, N. J.

He has studied industrial management at the University of Minnesota and University of Cin-

(Continued on Page 2)

Convair Engineers Studying Hypersonic Transport Design

Convair engineers are studying performance potential and feasibility of development of a hydrogen-burning, air-breathing airplane that would cruise at several times the speed of sound and might fly from Los Angeles to London non-stop in 1½ or 2 hours.

The nine-month study contract is being carried out as a 17-man effort under a $200,000 contract under direction of NASA's Mission Analysis Division at Moffett Field, Calif.

Frank E. Jarlett of Dept. 581-5 at Kearny Mesa is program manager working under direction of R. A. "Dick" Nau, acting manager of advanced launch and reentry systems. Chris Cohan is assistant program manager.

Others with key roles in the study project and their areas of responsibility are Barry Prior, propulsion; Gordon Place, performance; C. J. "Don" Tait, configuration; A. M. "Alf" Goldman Jr., missions; R. W. "Wes" Woodrey, sonic boom; C. R. "Bob" Bernick, economics; and Jerry Butsko, aerodynamics.

During the first four months, the group is studying four basic vehicle designs, 100 to 400 passenger capacities, 2,000 to 8,000 miles-per-hour speed ranges, cost

(Continued on Page 2)



GOING CONCERN — Convair Service Center is under way and rolling as newly-established repair and overhaul facility for airframe and aerospace products with military and commercial planes now in work. At left, L. B. Coyle and Harold Baker, mechanics, strip Air Force F-102 of protective coating under SAAMA contract while, at far right, is Convair-Liner under conversion to Convair 600 for Hawaiian Airlines. In center is Service Center's adminstratve staff. E. J. Huntsman, manager, at head of table (fourth from left) consults with (from left) J. D. Tate, chief of quality assurance; L. F. Lau, chief of operations; R. G. Leigh, chief of administration; Lee Drake Jr., chief of program scheduling; J. J. Zathan, chief of material. Service Center occupies former Lindbergh Field building.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Nov. 16 and Nov. 30.

Thirty-year: Dept. 527-0, G. L. Peyton; Dept. 761-0, J. W. Wiley; Dept. 835-4, T. A. Anderson; Dept. 970-1, G. O. Couchman.

Twenty-five-year: Dept. 057-2, E. F. Kotnik; Dept. 143-4, R. S. Sellers; Dept. 149-2, G. S. Durland Jr.; Dept. 194-0, H. S. Stutzman; Dept. 300-4, J. D. Tate; Dept. 401-4, Frank Eramo; Dept. 509-1, R. H. Egbert, F. C. Romero; Dept. 838-3, C. E. Hitson.

Twenty-year: Dept. 019-0, G. E. Rhea; Dept. 101-5, L. M. Whitney; Dept. 113-0, J. K. Underwood; Dept. 251-5, W. E. Burnett; Dept. 759-0, W. M. Eddings, J. F. Pearl; Dept. 976-3, J. K. Bennett.

Fifteen-year: Dept. 015-0, Andrew Davis Jr.; Dept. 130-1, C. E. Miller; Dept. 132-1, D. D. Dimmitt Jr., C. P. Paularena; Dept. 193-1, T. S. Riley; Dept. 250-0, E. W. Reid; Dept. 300, C. M. Bley, J. D. Gonzales; Dept. 420-3, R. L. Bales; Dept. 450-0, W. R. Walker; Dept. 521-6, Deborah V. Gray; Dept. 576, W. L. Johnson, J. F. Strazz; Dept. 587-1, D. L. Greer; Dept. 780-3, Ronald Johnson; Dept. 818-1, H. F. Schubert; Dept. 835, J. A. Harvey, L. L. Yarbrough; Dept. 962-2, R. C. Dow; Dept. 966-0, A. N. Hatch; Dept. 974-4, F. M. Contreras.

Ten-year: Dept. 001-0, Bernave Macias; Dept. 015-0, J. A. Adams; Dept. 131-1, W. E. Rogers; Dept. 142-2, Antonio Martinez; Dept. 143, C. R. Powell, R. C. Terry, E. R. Wheiland, Christine L. Witkowski; Dept. 146-1, G. J. Miyashiro; Dept. 191-1, Selina C. Ward; Dept. 223-0, Helen O. Scott; Dept. 250-1, K. D. Taylor; Dept. 420, Maude V. Arwood, Lacy Blair; Dept. 511-1, V. O. Kettler; Dept. 524-2, Lucy H. Clover; Dept. 532-1, Walter Egli; Dept. 533-1, C. E. Magnuson; Dept. 571-4, L. E. Green; Dept. 572-1, D. T. Farrelly; Dept. 574-1, N. M. Kochen Jr.; Dept. 576-3, C. C. Claybrook; Dept. 578-2, W. D. Bowers.

Dept. 633-1, W. A. Daly; Dept. 652-0, J. B. Young; Dept. 715-0, M. J. Peka; Dept. 733-0, R. H. Smith; Dept. 744, C. L. Chumney, J. D. Wicks; Dept. 756-0, L. E. Wills; Dept. 758-0, K. N. Jones, E. E. Landry, E. H. Mitchell; Dept. 802-0, Nell G. Verwiebe; Dept. 816-1, G. A. Babcock; Dept. 818-1, Eleanor E. Ross; Dept. 819-0, Conrad Mobilio; Dept. 835, K. L. McDonald, F. P. Weaver; Dept. 839-1, W. H. Huber; Dept. 964-1, G. W. Lucas; Dept. 972-0, H. J. Oakes; Dept. 979-2, T. C. Chitty.

ELECTRONICS

Service emblems due during the month of November.

Twenty-five-year: Dept. 4073, H. D. Musick.

Fifteen-year: Dept. 6867, C. J. Carter.

Ten-year: Dept. 1763, A. N. Bowden; Dept. 4071, D. C. Newlon; Dept. 5078, O. N. Hammer; Dept. 7587, R. E. Wilson.

MARINE TECHNOLOGY CENTER

Twenty-five-year: S. T. Wood (due Oct. 20).

STROMBERG-CARLSON

Service emblems due between Nov. 16 and Nov. 30.

Ten-year: Dept. 8260, Anita N. La Barrer; Dept. 8602, T. D. Brooten; Dept. 8608, B. R. Miale.

Awards

CONVAIR

Employe Suggestion awards approved for the period ending Nov. 10.

Dept. 001, J. Comba (two awards), J. H. Hammer, H. G. Mondy, W. A. Swanson, J. W. Weisman (two awards); Dept. 002, E. Fountain, J. P. Hood, E. F. Jenkins; Dept. 015, C. Brown, V. J. Rocco; Dept. 019, B. C. Lovelady (two awards), D. R. Wilson (two awards), Dept. 024, J. P. Kany; Dept. 031, N. E. Eldridge, A. J. Elo; Dept. 041, J. Caldwell, G. A. Hasti; Dept. 140, M. M. Saunders Jr.; Dept. 141, W. F. Hageman, L. E. Jolley; Dept. 143, D. J. Melson; Dept. 149, E. Boyd; Dept. 194, B. Powell; Dept. 250, W. A. Engelke, J. D. Juarez, M. E. Nicolet.

Dept. 251, R. E. Wells; Dept. 571, E. J. McGee, G. A. Tatum (final installment); Dept. 576, P. T. Cary, J. D. Hamner; Dept. 681, R. J. Brackett; Dept. 731, H. H. Dickey (final installment); Dept. 833, L. O. Scarbrough; Dept. 835, L. R. Matthews; Dept. 973, W. B. Haney, R. R. Lammert; Dept. 974, Z. G. Bosworth; Dept. 979, A. D. Chandler, K. C. White.

Cost Improvement Proposals approved for the same period.

Dept. 644, K. W. Fitch; Dept. 681, T. A. Feaster.

Invention Disclosures

CONVAIR

BAYER—M. C., Dept. 551-4. Inflated-in-Orbit Balloon Type Space Satellite or Space Station Antenna.

BROWN—H. A., Dept. 543-3, and R. E. MOORE, Dept. 540-0. Coaxial Switch.

HETRICK—W. F., Dept. 124-0. Nearby Electronic Marine Observer (NEMO).

McKEOWN—D., Dept. 596-0. Attitude Indicator.

TUSKES—Mary, Dept. 143-2, and L. J. WHISLER, Dept. 420-9. Inspection Gage.

Personals

CONVAIR

My deepest appreciation goes to all my Convair friends for the kindnesses and expressions of sympathy extended to me at the death of my wife.

Lee Stamper, Dept. 019.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Technical Papers

CONVAIR

BATTEN—R. L. and E. C. NOBLE, Dept. 585-1. "Shaped Charge Shock Environment for Centaur Vehicle Components." U. S. Naval Research Lab, NASA/35th Shock & Vibration Symposium, New Orleans, La., Oct. 26-28.

GREENSITE—Arthur, Dept. 512-3. "A Frequency Sensor and Roving Notch Filter for Control System Application." IEEE/National Electronics Conference, Chicago, Ill., Oct. 25-27.

KERR—J. R., Dept. 572-1. "Effect of Environmental Exposure on Mechanical Properties of Several Foil Gage Refractory Alloys." AIME/Fourth Symposium on Refractory Metals, French Lick, Ind., Oct. 3-5.

LANGFORD—G. J., Dept. 491-0. "Manufacturing Progress in Joining Aerospace Metals." SAE/Panel—Advancement in the Manufacturing Techniques for Aerospace Metals, Los Angeles, Calif., Oct. 4-6.

MAHADEVAN—P., C. E. CARLSTON, and G. D. MAGNUSON, Dept. 596-0. "Charge Transfer Cross-Section Measurements in the eV Energy Range." Honeywell Inc., U. of Minnesota, American Physical Society/18th Annual Gaseous Electronics Conference.

SLYSH—Paul, Dept. 542-0. "Ratio Manned Automatic Structural Assembly." SAE/1965 National Aeronautic and Space Engineering Meeting, Los Angeles, Calif., Oct. 4-8.

SMITH—C. R., Dept. 587-1. "Taper-Lok Bolts—Digest of Test Data and User's Experiences." American Society for Tool & Manufacturing, Pacific Area National Meeting, Seattle, Wash., Oct. 31-Nov. 5.

TRAMMELL—Lee, Dept. 595-0. "SC-4020 Scaling Routine." UAIDE Convention, New York, Oct. 12-14.

WISSMAN—J. W., Dept. 585-0. "Nonlinear Structural Analysis: Tensor Formulation." AFSC, AFIT/Conference on Matrix Methods in Structural Mechanics, Wright-Patterson AFB, Oct. 26-28.

WISSNER—I. E., Dept. 145-0. "System Safety Interface with Industrial Safety." National Safety Council's Aerospace Section Meeting, Chicago, Ill., October.

YANG—C. T., Dept. 572-0. "Analysis of Static Crack Propogation at Room and Cryogenic Temperatures." American Society for Metals Meeting, Detroit, Mich., October.

Presenting papers at AIAA/Fourth Manned Space Flight Meeting, St. Louis, Mo., Oct. 11-13, were C. D. KING and B. W. HRYEKEWICZ, Dept. 592-0, "Thermal Control in an Advanced Life Support System." J. R. MILLIGAN, Dept. 592-0. "Influence of a Rotational Environment on Human Factors Criteria for Space Vehicle Interior Design." M. R. SELDON, Dept. 140-0, and J. T. BYRNE, Dept. 261-7. "Realistic Equipment Assessment Logic in System Management (REALISM)."

Presenting papers at American Welding Society/National 1965 Fall Meeting, Birmingham, Ala., Oct. 4-7, were: G. J. LANGFORD, Dept. 491-0. "Gas Tungsten Arc Welding Process Improvement." W. E. WITZELL and H. F. GREER, "Study of Interface Discontinuities in Resistance Spot Welded Stainless Steel."

Presenting papers at Instrument Society of America/20th Annual Instrument Conference, Los Angeles, Calif., Oct. 4-7, were: E. H. CHRISTENSEN, Dept. 966-3. "Application of Foil Colorimeters to Measurements of Space Vehicle Environmental and Exhaust Plume Heating." D. J. FERRIS, Dept. 578-4. "A Flight Strain Gage System for the NASA Centaur Liquid Hydrogen Tank Skin." R. G. ROSCOE, Dept. 142-4. "Instrument Training Program-General Dynamics Convair." A. J. WOODINGTON, Dept. 142-0. "Education for Commercial Metrology."

Presenting papers at Optical Society of America Annual Meeting, Philadelphia, Pa., Oct. 6-8, were: C. C. FERRISO, C. B. LUDWIG, L. ACTON, Dept. 596-0. "Emissivity of the 15 u CO_2 Band Between 1000° and 2300°K." W. MALKMUS, Dept. 596-0. "Modified Random i/s Band Model."

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff. Lindbergh Field, ext. 491. 1½ hrs.; Dec. 7, 7 a.m. and 3:30 p.m., Convair Service Center personnel, Bldg. 14 auditorium, Tuesday, Dec. 14, 8 a.m. and 4:30 p.m., Lindbergh Field personnel, Bldg. 14 auditorium.

PROFESSIONAL/TECHNICAL

F&CD — IR — Hal Rubin, Lindbergh Field, ext. 491. Two hours; Monday, Nov. 29, and Tuesday, Nov. 30, 9-11 a.m. Conference room, Bldg. 3, Plant 19.

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks, Kearny Mesa coordinator, Harry Miller, ext. 1931; Lindbergh Field coordinator Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training) — Eight hours per day, 26 weeks, Bldg. 3, Lindbergh Field coordinator, Wayne Turner, ext. 491.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly 7 a.m.-3:45 p.m.; Room 10, Bldg. 17, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

BLUEPRINT READING — Bill Sherman, ext. 491, Lindbergh Field. Oct. 25 to Jan. 26. Monday and Wednesday, 3:45-6:15 p.m., Bldg. 14, Room 5.

CITY COLLEGE SPRING COURSES—Send AVO to Dick Forrest, Zone 130-30, Kearny Mesa. Give name, department, extension, courses interested in. Classes will be held one night a week, usually 5-8 p.m.

OUT-OF-PLANT

SAN DIEGO STATE COLLEGE — Deadline for admission to spring semester is Dec. 15. Catalogues will be available at Convair educational services offices after Dec. 10.

Births

CONVAIR

SIMMONS—Son, Eugene David, 7 lbs., 4½ oz., born Oct. 14 to Mr. and Mrs. Eugene Simmons, Dept. 733-0.

Deaths

CONVAIR

ROBBINS—L. R., Dept. 400. Died Nov. 4. A brother survives.

Mgt. Club Will Hold Xmas Dance Dec. 18

"Holiday Frolic," the Convair Management Club's annual Christmas dinner-dance, will be held Dec. 18 in the Community Concourse Convention Center auditorium.

Social hour is scheduled for 7 p.m. with dinner at 8 and dancing from 9 to 1 a.m.

The 10-member Buster Carlson orchestra, featuring vocalist Barbara Howell, will provide music for dancing. Strolling musicians will entertain and a fashion show and gift distribution will add to festivities.

Tickets at $3.50 per person will be available from Management Club Boosters early in December. Controller department is sponsoring.

Electronics Names Two to Top Posts

(Continued from Page 1)

cinnati and electrical engineering at the University of Indiana, Fairleigh Dickinson University and Stevens Institute of Technology in New Jersey.

Edwards has been with General Dynamics since April, 1961, when he joined Electronics division as a district office representative. He transferred to Corporate Headquarters in the fall of the same year and has been based at the Los Angeles Office since.

He served with the Marine Corps 10 years, 1942-52, as naval aviator. Following his discharge from the service he was sales engineer with Lear, Inc., Santa Monica; Transval Electronics Corp., El Segundo; Metrolog Corp., Pasadena; and Packard Bell Electronics Corp., Los Angeles, Calif. He attended Santa Monica City College and University of California at Los Angeles.

San Diego State's Deadline Is Dec. 15

Deadline for admission in San Diego State's afternoon and evening courses in the spring semester is Dec. 15.

Applications for admission are being accepted now at the Admissions Office, Room 127, Administration Bldg., phone 286-6871.

Bulletins for late afternoon and evening courses will be available at Convair educational services offices at Kearny Mesa and Lindbergh Field after Dec. 10.

RESIDENT REP TO GO ABROAD

J. R. "Jim" Anderson, Hawker Siddeley Dynamics Ltd. resident representative at Convair's Kearny Mesa plant, is leaving Dec. 5 for a one-month combination vacation and business trip to England. He will be spending the holidays with his family in Coventry.

Service Center Bidding For Overhaul, Repair

(Continued from Page 1)

and missile man, is supported in his confidence of the success of the Service Center by his staff: R. G. Leigh, chief of administration; L. F. Lau, chief of operations; J. D. Tate, chief of quality assurance; J. J. Zathan, chief of material; and Lee Drake Jr., chief of program scheduling.

The Service Center occupies the former Convair Bldg. 3 at the north end of the Lindbergh Field plant. The building, together with certain field operations, including pits 1, 2, 3, and 4, are under the Service Center's jurisdiction.

Contained within the Service Center organization are the capabilities for program direction and scheduling, purchasing, material control, quality assurance, marketing, sales, estimating, budgeting and accounting. Other support services such as mail and maintenance services, industrial relations, plant engineering, telephone and other utilities are purchased from the Convair division.

Huntsman reports directly to Jack L. Bowers, Convair general manager, for overall administrative direction.

The Center is presently employing in the neighborhood of 400 persons.

Retirements

CONVAIR

ALBA de COSTA—Calelle, Dept. 3-3. Seniority date July 5, 1960, retired Sept. 13.

CLOWER—Hardigain L., Dept. 140-3. Seniority date Jan. 21, 1952, retired Sept. 23.

COYNER—Robert M., Dept. 988-4. Seniority date Nov. 20, 1945, retired Oct. 22.

CURRIER—Dean E., Dept. 547-7. Seniority date June 20, 1955, retired Sept. 13.

MONROE—Marion H., Dept. 16-1. Seniority date May 7, 1957, retired Oct. 3.

NICHOLS—Ivan F., Dept. 835-1. Seniority date Aug. 22, 1955, retired Nov. 12.

ROBERTS—Harold L., Dept. 780-2. Seniority date May 9, 1956, retired Sept. 5.

ROBINSON—Richard S., Dept. 148-3 Seniority date Aug. 11, 1950, retired Oct. 29.

SCOTT—George A., Dept. 146-4. Seniority date May 6, 1957, retired Oct. 11.

SWOPE—George R., Dept. 250-6. Seniority date Feb. 4, 1959, retired Sept. 6.

VELLA—Vincent V., Dept. 652-2. Seniority date April 16, 1959, retired Oct. 3.

WILLIAMS—Marion D., Dept. 322. Seniority date Feb. 17, 1958, retired Nov. 8.

ZALUSKEY—Eugene R., Dept. 48. Seniority date Aug. 15, 1955, retired May 7.



BRITISH "CLASS" — Representatives from all parts of United Kingdom meet at Electronics operation in San Diego for 8-week radar training with Electronics - SD instructors. They are (from left) Max Leeds, Electronics; David Ellis; Art Zagon, Electronics program manager; Harry Shirley, Electronics; Chris Batten, John Crook, Eric Ross, Leonard Sparrow, Brian Bond. Training program will end in mid-December.

Convair Engineers Studying Hypersonic Transport Design

(Continued from Page 1)

of development of such craft and sonic boom problems. Variable sweep-wing configurations and various propulsion system considerations will be included.

Mission Analysis Division representatives will be at Kearny Mesa on Jan. 6 for a briefing on the first phase.

The following five months will be devoted to more detailed study of the two most promising vehicle designs in order to determine the best of the two systems and define critical research areas for possible later detailed studies.

Since outside temperatures of a hypersonic aircraft would reach more than 1,000 degrees Fahrenheit, such a plane would probably have no windows and nickel alloys would be used for both body and wings. The metal would have a red "glow" during flight.

One of the designs under study calls for an overall length of more than 300 feet, a wing span of 90 feet and the tip of the tail towering 80 feet into the air.

"First look" study indicates any of the designs under consideration would have the aircraft weighing more than a half-million pounds.

Jarlett said the liquid hydrogen fuel storage area will dominate the designs with as much as 80 per cent of the fuselage area being allocated to fuel storage.

The hypersonic transport would perform much like current subsonic jets, taking off from conventional airports and landing under power. Liftoff speed would be about 160 knots and landing speed about 135 knots.

While subsonic jets make the Los Angeles to London run in about 12 hours, the supersonic transport now being planned will make the flight in about 4½ hours and the hypersonic transport in about 1½ or 2 hours.

Liquid hydrogen is considered advantageous as a fuel because of its high energy content and its ability to absorb heat. Advances in present technology will be necessary, however, before a hydrogen-fueled aircraft becomes a reality.

The Convair studies will include an analysis of population trends through the year 2000, airfield design and proposed transcontinental and intercontinental hypersonic air traffic routes.

"We are taking a broad look at the basic factors inherent in this concept," Jarlett said.

The group of Convair engineers and design specialists working on the project previously worked on the company's Aerospaceplane feasibility studies of 1959 through 1964 and on studies for NASA on feasibility of a reusable orbital transport.

Small Business Program At Convair Rated Tops by AF

(Continued from Page 1)

lence of its small business and labor surplus area program.

Under this program, Convair also has achieved an "industry first" by developing a refined system for storing and retrieving suppliers' capability data.

"When seen in action, it is obvious this system serves the interests of suppliers as well as of Convair by assuring timely consideration of their capabilities," Olson said. "It is particularly helpful to the small firm that does not have a sales force or catalogues."

The system consists of commodity cards, a hole puncher and a viewing device. Each hole in one of the commodity cards indicates a vendor with a specific capability.

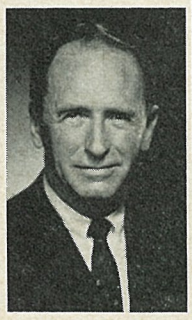
Placement of a translucent grid pattern over the commodity cards in the viewer allows for a speedy decoding of vendor names for use in preparing bid lists. At present, more than 6,750 suppliers' capabilities are coded on more than 3,000 commodity cards. Of the supplier firms, 5,046 are small business firms.

"With this system, we can sort through 50,000 pieces of information about vendor capability in five minutes," Olson said. "A small business firm and its capabilities are never forgotten once they are incorporated into the system."

Convair now is awarding subcontracts to small business suppliers in almost every state. Within San Diego County alone, there are 617 small business firms dealing with Convair.

New Frontier of Deep Sea Awaits 'Bold and Brave' Says Roger Lewis

The maritime nations of the world are on the threshold of a new frontier, that of the deep sea, one which may be the greatest frontier of them all, Roger Lewis, General Dynamics president, said last month in an address before the 63rd anniversary dinner of the Navy League of the United States in New York City.



Roger Lewis

"The prize will be rich, but will it fall to us?" he challenged.

"We have competitors—bold, imaginative and competent . . . And they are hard at work to understand and to use for their own purposes the sea's bounty . . .

"If we are to be the first masters of the sea, there is no time to be lost . . ."

Lewis recalled that the first practical submarine was built for the U. S. Navy by John Holland in 1900, and since then the major burden of probing the mysterious deep has fallen on the Navy, driven by military necessity. He called attention to the recent development of research submarines for exploration at vast depths, and the Navy's Sealab II experiment off La Jolla, California.

Currently the Navy's oceanographic budget is $170 million and eight other governmental agencies will spend $70 million, with the entire national effort coordinated by the Interagency Committee on Oceanography.

"So far we have a pretty good start," Lewis said.

However, Lewis indicated grave doubt that the situation would necessarily continue with a "strong American flavor."

"The Dutch, Danes, Norwegians, British and Germans have divided up the oil rights in the North Sea . . . Russia is reported to have a fleet of 230 ships working in the marine sciences . . . France is planning man-in-the-sea experiments . . . Japan has had a 650-foot depth research submarine since 1960 and commissioned a 2,000-foot vessel last year . . ."

Although admitting America has had its sea triumphs (circumnavigating the globe under water, etc.) Lewis cautioned that "the race is still to the bold and the brave."

Mentioning that the national space budget for this fiscal year is nearly $3 billion, Lewis commented:

"Perhaps the time is not yet right for a national oceanographic program on the scale of the space program. Perhaps we do not yet know enough about this strange new world to mount such a priority effort and to spend such vast amounts wisely.

"But certainly we must mount a greater effort to explore and probe its farthest reaches than exists today . . . We need more tools, more effort, a wider scope. These are matters of vital national urgency NOW . . ."

★ ★ ★

"Experience has shown us that, in the fields of science and exploration at least, we are constantly overestimating what we can do in five years, and vastly underestimating what we can do in 30.

"But our thinking has to start somewhere . . . what are some of the possibilities of the vast deep sea frontier now opening before us?"

Following are some of the possibilities as foreseen by Roger Lewis:

Within **FIVE YEARS** we could:

Build swift research submarines to take scientists **anywhere** in the ocean for extended observation, measurement and photography.

Begin underwater mining of minerals and ingredients for fertilizer.

Develop new drugs, antibiotics and hormones from marine life.

Develop a world network of oceanographic buoys to collect surface and underwater data on temperatures, salinity and currents to be telemetered back to land on command. (A Navy-sponsored prototype of such a system has already been built and is undergoing sea trials off Florida.)

Begin transporting oil from wells beneath the Arctic ice cap.

Within **TEN YEARS** we could:

Develop nuclear submarines capable of 60-knot speeds.

Emplace underwater sonar beacons as submarine navigation aids.

Develop techniques to raise even the largest lost ships (perhaps by injecting buoyant foam into sunken hulls).

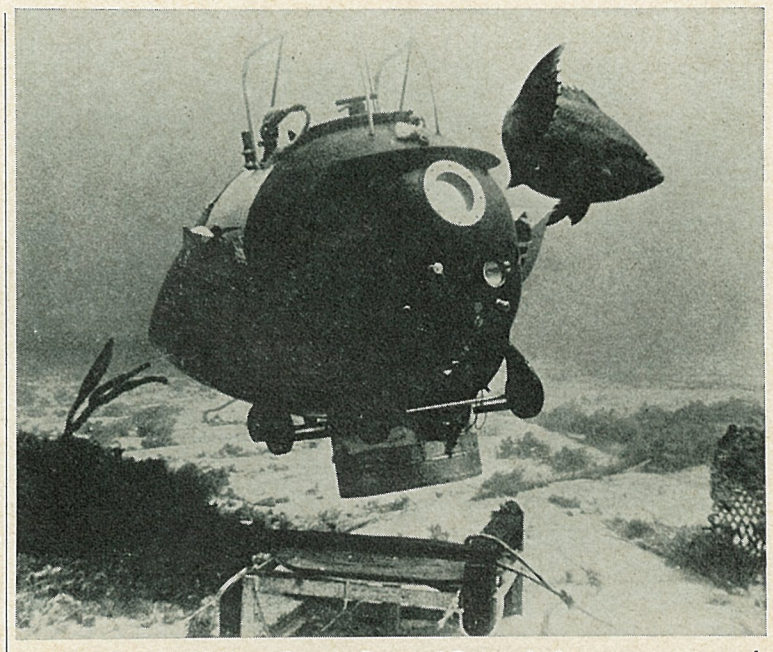
Develop scientific husbandry of sea food, improving the quality and quantity of lobsters, oysters and other marine delicacies in offshore farms and ranches, for example.

Develop systems to predict the weather and eliminate or divert destructive hurricanes.

Within **25 YEARS** we could:

Build underwater resorts from which vacationers could hunt game fish or prowl the oceans in mass-produced sport submarines.

Develop artificial gills that would let man reclaim directly from the sea the oxygen he needs for underwater work.



ON THE BOTTOM — Star I, General Dynamics' one-man research submarine, is currently on West Coast at GD's Marine Technology Center at San Diego. Note the curious fish.

GD's Cost Reduction Efforts Earn Citation

General Dynamics has received a certificate in "Recognition of Cost Reduction Participation" from National Aeronautics and Space Administration, signed by James E. Webb, administrator.



Dr. Silverstein



James Webb

Notification and the certificate came in letters to Roger Lewis, General Dynamics president, from Webb and Dr. Abe Silverstein, director, NASA's Lewis Research Center.

Dr. Silverstein wrote: "It is indeed a pleasure to inform you that the General Dynamics Corporation Cost Reduction Program has been approved by the NASA Cost Reduction Board . . . I certainly appreciate the interest and cooperation which your company has shown in this program."

Webb added: "The members of NASA General Management join with Dr. Abe Silverstein in thanking you for your very excellent efforts . . . We will look forward to your continued personal support in our effort to achieve economy and efficiency in the Space Program."

NASA 990 PURSUES COMET IN PACIFIC

A Convair-built plane, the NASA 990, carried a team of scientists in pursuit of the Ikeya-Seki comet to gather scientific information on the comet's chemical composition.

Convair's Jack Rogers, flight engineer, was a member of the crew who piloted the plane high above the Pacific Ocean for 13 days in a row to give its passengers a ringside seat at one of the most spectacular sights in astronomical history.

Another Convair man, J. E. Starling, field operations mechanic, was assigned to the task and accompanied the plane on most of its "comet-chasing" flights.

Dr. Michael Bader headed the scientists from Ames Research Center.

The plane, now known as the Galileo, took off each morning at 2 a.m. from Hawaii and flew at altitudes of 40,000 feet.

British Visitors See Convair Facilities

R. J. Atkinson, head of the structures department of the Royal Aircraft Establishment in England, and Dr. M. O. W. Wolfe of the British Embassy in Washington visited Convair's Kearny Mesa and Lindbergh Field facilities Nov. 11.

The two took part in informal discussions and toured Convair computer facilities and the materials laboratory at Kearny Mesa. Dr. D. J. Peery, Convair chief of structural analysis, was host.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

TOM WORTHY (1953) from Pomona division to Stromberg-Carlson as vice president-industrial relations. **ROGER BROWN** (1956) former industrial relations director for Electronics division and member of Corporate IR staff since April, 1965, succeeds Worthy as IR director at Pomona.

ROBERT J. LUTZ (1956) from Corporate Headquarters to engineering staff specialist, Convair; **CONRAD C. LINGENFELDER** (1952) from Convair to electronics project engineer, Electronics, San Diego; **KENNETH G. KOVER** (1957) from Convair to educational services, Pomona; **ROBERT L. BOTTOMS** (1961) from Stromberg-Carlson, San Diego, to design specialist, Convair.

EUGENE BARBIC (1952) from Pomona to research test engineer, Convair; **SHERMAN I. KLEIN** (1965) from Stromberg-Carlson, San Diego, to design specialist, Electronics, San Diego; **FREDERICK W. MATSON** (1941) from Convair to assistant foreman, receiving and stores, Pomona; **JOHN A. GASTLER** (1952) from Stromberg-Carlson, San Diego, to electronics data processing programmer, Electronics, San Diego.

DONALD M. DVORAK (1953) from Electronics, San Diego, to master schedules analyst, Convair; **BOYCE R. WILLIAMS JR.** (1963) from Convair to educational services, Pomona; **KANIE R. KEEF** (1953) from Stromberg-Carlson, San Diego, to foreman group V, Electronics, San Diego; **KEITH W. STROWIG** (1958) from Electronics, San Diego, to quality assurance, Pomona.



COMET TAIL — Photo by Convair's Grant Hansen shows Ikeya-Seki comet and its 75-million-mile "tail," reportedly the most spectacular to be seen since Halley's comet was visible in 1910. Stars appear as short dashes due to rotation of earth during exposure. Horizontal line of dots were from flashing light of an airplane passing through area while photo was being made.

Time Exposure Catches Comet With 75-Million-Mile Tail

An unusually clear Polaroid photograph of the Ikeya-Seki comet was made by Convair's Grant L. Hansen, vice president and Centaur program director, at 5:45 a.m., Oct. 29 from his home in the Mt. Helix area of San Diego.

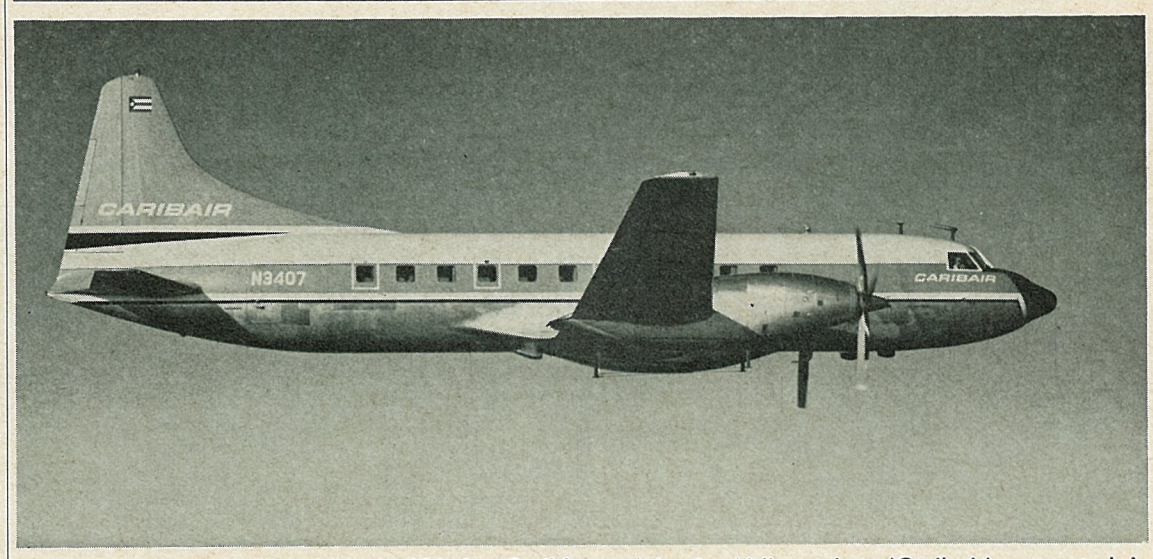
Hansen said he was looking through his binoculars when he realized the sight was "pretty spectacular" and set up camera and tripod.

He took six or seven shots of the comet with the best one being exposed while he "counted slowly to 150" or for about 2½ minutes. The photo shows the "tail" of the comet to be somewhat curved, probably as a result of the nearness to which it passed the sun.

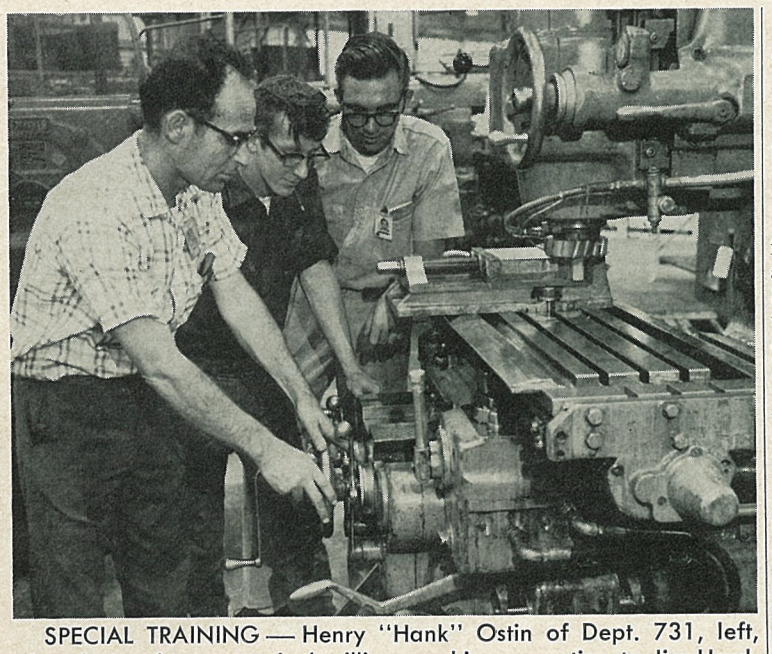
The "tail" is reportedly some 75 million miles long with the comet passing about 100 million miles from earth.

Centaur in the future may be mated with a high-energy Kick Stage and an Atlas SLV-3X to "probe" comet tails as well as to send probes weighing a few hundred pounds to planets such as Jupiter, Saturn and Mercury and to the sun.

"Comets are something we don't know much about," Hansen said. "It will take a fairly high energy vehicle to make comet-tail probes."



FLYING HOME — First Convair 600 for Caribbean Atlantic Airlines, Inc. (Caribair) converted in Convair Service Center to turbojet version powered with Rolls-Royce Dart engines, has flown from San Diego to home base at San Juan, Puerto Rico. Altogether, nine of Caribair's Convair-Liners will be converted to Convair 600s.



SPECIAL TRAINING — Henry "Hank" Ostin of Dept. 731, left, gives instruction on vertical milling machine operation to Jim Harding, 22, center, and William Spurlock, 19. Harding and Spurlock are among 52 young men to receive on-the-job training under contracts with the Mayor's Committee for Jobs, Inc.

Young Men Get On-Job Training In Federally-Backed Program

Fifty-two previously unskilled young men will be trained as airplane mechanics and milling machine operators at Convair and Convair Service Center under contract with the San Diego Mayor's Committee for Jobs, Inc.

Trainees in both programs will receive 1,040 hours of on-the-job and related classroom instruction during a 26-week period.

The Mayor's Committee has a prime contract with the Department of Labor to place 700 such youths in on-the-job training programs in industry and service trades in San Diego, in accordance with provisions of the federal Manpower Development and Training Act.

Convair signed the first training contract with the Mayor's Committee, which last month had in effect 40 similar contracts under which 106 trainees were learning 25 different occupational skills in 11 different kinds of businesses throughout San Diego.

Firms participating in the training programs receive partial reimbursement of their cost of training the youths to fill positions in which there is a shortage of trained personnel.

Twenty-four airplane mechanic trainees will be employed at Convair Service Center, Lindbergh Field, in the Convair 600 conversion and F-102 refurbishment programs.

They will receive 72 hours of classroom instruction and approximately 200 hours of on-the-job training in basic structural assembly, 160 hours in aircraft cleaning and preparation, 120 hours in basic mechanical assembly, 160 hours in removal and installation of mechanical components, 120 hours in mechanical system checkout, 160 hours in mechanical overhaul and 120 hours in general airplane electrical work.

Crew chiefs Vernon Issac, L. R. Imbimbo, John Morey and Fred Yarick are the on-the-job training instructors.

The 27 milling machine operator trainees are working in Dept. 015 at Lindbergh Field and Depts. 731 and 452 at Kearny Mesa.

They will have 72 hours of classroom instruction, including study of math and blueprint reading.

Their on-the-job training will include approximately 160 hours each on vertical and horizontal milling and approximately 120 hours each on slab, face, straddle, tracer and slot milling and scarfing.

Their on-the-job instructors, who spend full time with them during the first four weeks of training and will spend progressively less time with them as they become more proficient, are William Sileneck and Stanley S. Jensen of Dept. 015, Jerry Churness of Dept. 452 and Henry Ostin and Dick Reed of Dept. 731.

Classroom instruction for the trainee groups is being given by Wayne Turner, Ed White and Harry Miller of educational services.

Jack A. Croft, chief of educational services, said the California Department of Employment is providing initial screening and aptitude tests for the trainees.

"Prospects are then referred to us for interviews and we are selecting those we believe will be best suited for the training programs," he said.

Many of the young men in the two programs have had high school shop training but no related job experience. Several have completed military service and some are married with children.

"We have found them to be highly motivated and extremely productive by the end of the first four weeks of training," Croft said. "Their supervisors are well pleased with their work."

H. W. Rubottom, chief of educational services at Convair until his retirement in 1964, is project director for the Mayor's Committee. The training program contracts are supervised by N. T. Jordan, local area representative for the U. S. Department of Labor.

Air Force 102 At San Diego to 'Lead Two Lives'

An Air Force F-102 is "floating" in Convair's structures laboratory at the Harbor Drive Test Site in San Diego as it is put through fatigue cycling tests under a contract from San Antonio Materiel Area, Kelly AFB, Texas.

The complete testing program, which began last month, will extend to April, 1966, and subject the plane to the equivalent of two aircraft lives in flight and 10,000 landings.

First section of the fatigue cycling program, now under way, is airloads testing in which the aircraft is suspended from the ceiling and loads applied to the wings and fuselage to simulate actual flight loads. The plane is delicately balanced by application of upward and downward loads to achieve a floating condition, as if it were in flight, explained Ed Schiff, group engineer at the structures lab.

In the second period of the program the F-102's landing gear structure will be loaded while the plane is tied down rigidly.

The plane will be carefully inspected at scheduled intervals throughout the entire cycling program. In fact, as much or more time will be devoted to checking the plane's structure as is given to actual cycling, Schiff said.

During the airloads cycling, access doors will be removed during minor checks and in major checks, leading edges, elevons, spar attaching bolts disassembled and the dummy engine partially removed.

At conclusion of testing, all the skin will be stripped from one side of the wings for a minute inspection of the entire structure.

Surfaces of the plane are instrumented with strain gauges to indicate change of stress patterns and crack-detection wires, as fine as human hair, are glued to critical areas of the structure. Engineers are alerted to cracks in these areas when electrical current through the wires is broken.

The spectrum of different load levels scheduled for both the airloads and landing gear structure tests will be applied by the structures lab's closed-loop programming system.

Testing will be around the clock, 24 hours a day, with three shifts working day and night through the work week under direction of W. D. Bowers, test engineer on the program.

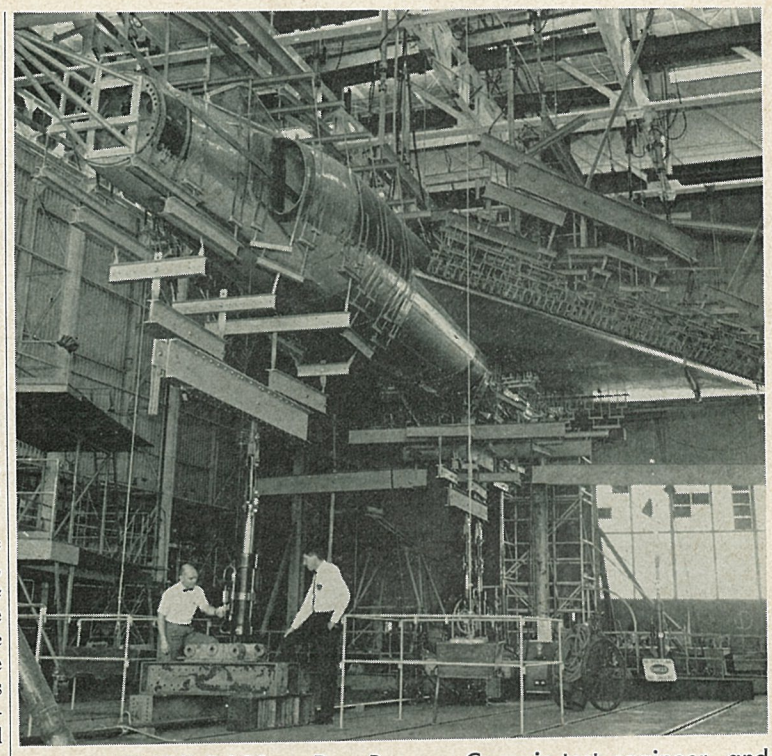
Big Game Hunters Draw Next Month

There is still time for General Dynamics big game hunters to get their bags in the hat for the annual drawing next month.

Entry blanks are available at CRA Clubhouse and all employe services outlets.

All GD people and immediate family members may enter "kills" of any large game taken during this year. The contest draws more than 100 entries each year and prizes going to winners have included outboard motors, cameras and rifles over the past years.

Big game includes such animals as deer, elk, moose, bear, javelina. Those who have downed two may register twice.



"FLOATING" F-102 — Don Bowers, Convair test engineer, and Ed Schiff, structures lab group engineer, check hydraulic loading cylinder at test set-up which will put Air Force F-102 through fatigue cycling — approximating two aircraft lives.

'Quick Reaction' Lab Handling Short-Run Production Orders

Electronics division at San Diego is producing "one-of-a-kind" electronic assemblies in jig-time in its "Quick Reaction Capability" laboratory, a research and development electronic shop set up for expediting short-run production orders.

D. C. Prim, Electronics-SD general manager, when he authorized the QRC lab in 1964, saw the need of a specialized facility with full and flexible capabilities for producing deliverable equipment.

At that time, Frank Berry, foreman, and five technicians were assigned as a nucleus. The force since has expanded to 47. All are qualified electronic and electrical technicians with from three to five years' experience in the advanced electronics field.

They work in the closest conjunction with design engineers during original design and incorporate design changes as they are made during product development. This allows resolution of problems with minimum of time and paperwork and provides a short lead-time between design and hardware delivery to the customer.

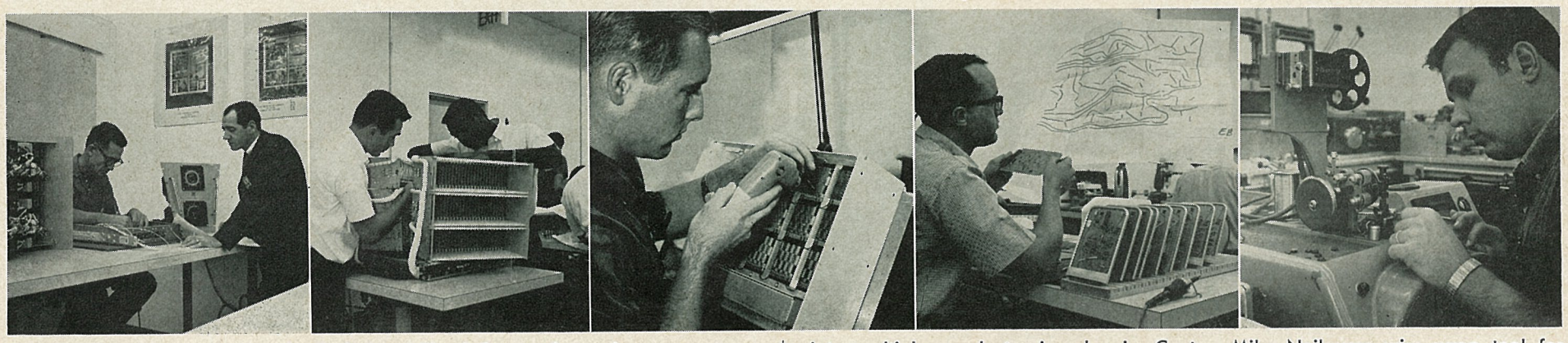
QRC facility, a part of Electronics operations but in no way connected with the regular production assembly-type operation, swings into action with a work support authorization the instant the signal is given after "design freeze" meetings.

Design changes are incorporated during fabrication and build-up of chassis with engineers giving instructions over technicians' shoulders, if necessary. When assemblies are completed, inspected, and tested, prints are corrected and the hardware-drawing package is sold off.

Programs now going through the unique shop facility are chassis and cabinets for Apollo Instrumentation Ships; components for NASA's Application Technological Satellite Range tracking system; G transponders and enhanced S-band transponders (small electronic packages used aboard missiles and satellites); Glotrac tracking system checkout set, spares, and modification kits; self-contained ground surveillance radars; Terrain Following Radar test set; and various types of coils and transformers for a wide range of programs.



QUICK ACTION — Electronics - SD's unique and flexible shop, Quick Reaction Capability laboratory, contains all necessary functions for production of "one-of-kind" electronic assemblies from design to delivery.



QRC AT WORK — From left, Technician Floyd Frost, wires relays on antenna relay chassis, working from electronic schematic diagram, with Frank Berry, foreman of Electronics - SD's Quick Reaction Capability lab, observing. In next shot, Gerald Orndorff and Joseph Kelly, electrical and radio technicians, make adjustments on data multiplexer electronics chassis. Center, Mike Neil uses wire wrap tool for solderless connections in "time-of-year" chassis for NASA program. In next photo, John Gish compares electronic circuit board with blown-up layout for board assembly. At far right, Dave Weigle winds transformer on bobbin winder.

Eighteen Honored by Convair For Cost Reduction Efforts

Eighteen Convair reliability control department personnel have been presented value improvement-cost reduction certificates of commendation for suggesting projects approved during a three-month period that will save $853,428.

R. G. "Bob" Roscoe of Dept. 142-2 was "high man" with two suggestions that will save the company $299,894. One of his suggestions which led to elimination of duplication of calibration laboratories alone was credited with a savings of $279,903.

W. W. "Bill" Wilimek of Dept. 141-2 was credited with $122,969 in savings for a suggestion that has streamlined recertification procedures for soldering personnel.

Phil I. Harr, director of reliability control, presented certificates to 17 of the 18 men in ceremonies in the Bldg. 2 presentation room Nov. 11.

Harr commended them for their "real fine performance" for the quarter and called their savings record an indication they had "done some very serious thinking about how we can get the maximum amount of quality for every dollar we spend." He cited examples from the automotive and shoe manufacturing industries in discussing quality and cost relationships in today's highly competitive environment.

Others receiving certificates for projects saving the company more than $50,000 each were T. W. "Bill" Brotherton of Dept. 143-6 with savings of $60,619; Frank E. Hinton Jr. of Dept. 143-6, $60,190; Ted Lamoreux Jr. of Dept. 142-4, three suggestions totaling $59,557; W. H. "Barney" Behrens of Dept. 959-0, two suggestions totaling $59,055, and Sam Braun of Dept. 143-0, $50,445.

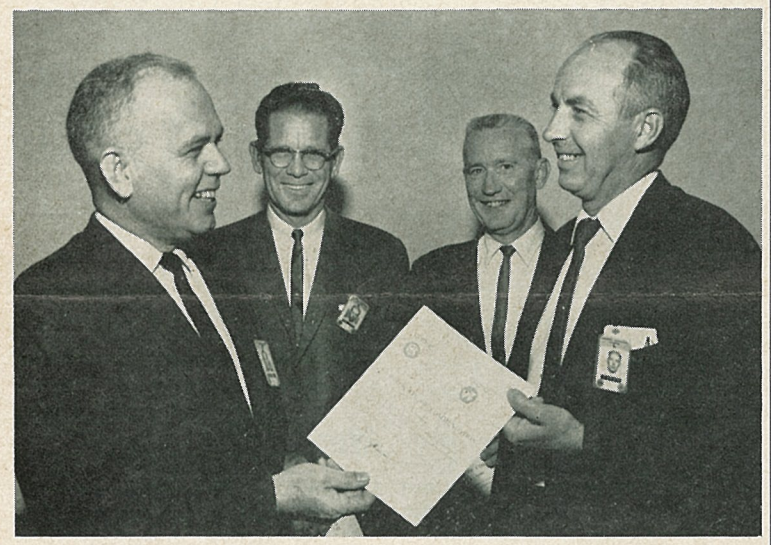
William Olson of Dept. 143-2 was on vacation and was to receive a certificate later for two suggestions saving $59,497.

E. J. Bourgeois of Dept. 143-4 received two awards from Harr—a certificate of commendation for a cost reduction suggestion saving $9,708 and his 20-year service pin.

Others receiving certificates and the amount of savings were: Don Miller of Dept. 141-2, two suggestions, $23,440; W. C. Seaforth of Dept. 145-0, two suggestions, $13,519; Les Dassoff of Dept. 146-3, $13,309,, and G. A. Knauss of Dept. 143-5, $7,562.

Also N. T. Keith of Dept. 146-5, $4,706; E. E. "Nick" Durbin of Dept. 143-4, $4,071; Ray Barnes of Dept. 141-4, $2,119; Frank L. Miller of Dept. 143-5, $1,422, and Paul W. Haggard of Dept. 143-2, $1,346.

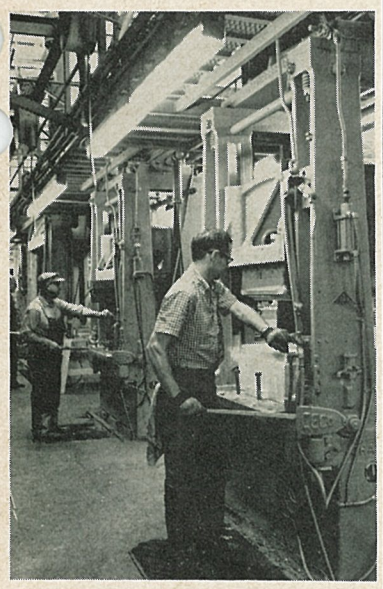
Eric Callard, who administers the cost reduction and value control programs in the reliability control department, said he is pleased with results to date and believes the department may effect savings of more than 2½ million dollars during the year.



SAVINGS — P. I. Harr, left, Convair director of reliability control, hands a certificate of commendation to R. G. Roscoe for suggestions that will save Convair almost $300,000. Center, left to right, are E. J. Bourgeois who received both a certificate and a 20-year-pin and W. W. Wilimek who received commendation for an idea that will save the company almost $123,000.

Machinery Renovation Program Passes Year at Lindbergh Field

Convair's preventive maintenance program which eventually will see all major machinery at Lindbergh Field plant renovated to "like new" condition, has just passed the first-year point.



RENOVATED — Convair drophammers in Lindbergh Field sheet metal are shining in new green paint. All four have been cleaned and painted and large 96-in. drophammer completely rebuilt in revolving in-plant overhaul of machinery. Operators, from left, are Ed Hussong, R. E. Scott, Willie Richeson.

During the year the revolving program has been in effect under responsibility of Lindbergh Field maintenance department a good many of the large machines in the machine shop have been rebuilt, as well as equipment at the high speed wind tunnel, and some of the larger machines in sheet metal department.

Work is performed in the Bldg. 7 machine tool rebuild area and equipment rotated in with as little down-time and lost-work as possible. After the machines are completely disassembled and rebuilt, they have as close tolerances as they did when new and have a whole new lifetime ahead, said Vern Sharp, general foreman of maintenance. Machinery can be rebuilt at a fraction of the cost of new equipment. For instance, the large 96-in. drophammer in Bldg. 1 sheet metal would have cost $125,000 to replace. It was rebuilt for $8,000.

Present plans call for over 20 major machine tools to be rebuilt in 1966, said John Fassel, supervisor in charge of the rebuild shop. These will include such items as the Madison grinder and Lucas boring mill in the tooling department and several precision profilers in the machine shop.

1965 Graphics Manual Sets Dynamics Style

General Dynamics and its divisions have a "new look."

The Corporate symbol—"G||||D"—has been eliminated. So has the "slash" style of identification, such as "General Dynamics/Convair."

New ground rules for identifying the Corporation and its divisions are spelled out in the Corporation's 1965 Graphics Manual.

"No symbols of any kind are to be used in, or developed for, Corporate or divisional identifications," according to the manual.

The new style for division "signatures" consists of two lines separated by a fine rule. "General Dynamics" appears on the top line in its re-proportioned lettered form. The second line shows the division name in a complementary italic type face.

Lettering and type must always be solid black. The separating rule may be in a second color. In matching forms—for example, a letterhead and envelope — the second color should be identical.

The two-line signature may appear centered, flush left, or flush right.

Although the manual does not specifically cover style for using the division name in other contexts, the following ground rules have been laid down:

Use "Convair Division of General Dynamics" or "Pomona Division of General Dynamics" etc., in general correspondence or informational material. (The word "Corporation" is to be added only to financial or legal documents.)

Where the division name is used in context more than once, the initial reference should be the full, "Fort Worth Division of General Dynamics"; thereafter, "Fort Worth Division" or whenever possible, "General Dynamics" alone. (But never "Fort Worth" without "Division.")

The new style rules out usage of the possessive form, such as "General Dynamics' Fort Worth Division." Abbreviations such as GD/FW are also prohibited.

C-141 Jets Fly All Over Globe

C-141s, Air Force jet cargo transports for which Convair is building the empennages under a contract from Lockheed-Georgia Co., are ranging to all parts of the world at the end of their first year in service.

The 1707th Air Transport Wing has been operating the Military Air Transport Service's C-141 Starlifters since October, 1964.

Convair will pass a milestone in the C-141 program early next month when it completes the 100th empennage.

Now a MATS C-141 flies to Vietnam from Travis AFB, Calif., each day carrying combat troops and equipment. Three of the C-141s provide aeromedical evacuation of patients on their return from Vietnam.

One of the huge C-141s recently drew crowds in Christchurch, New Zealand, when it flew there to deliver cargo and Air Force personnel assigned to Operation Deep Freeze in the Antarctic.

Lexington 'Alumni' Will Hold Reunion

Former members of the crew and squadron personnel who served aboard the carrier USS Lexington CV-2 will hold their 13th annual reunion June 22-25 next year in San Diego at the Hilton Inn (formerly Del Webb's OceanHouse).

The carrier, commissioned in 1927, was sunk in the Battle of the Coral Sea, May 8, 1942. A number of General Dynamics men served aboard the ship and further reunion information may be obtained from Walter D. Reed, 5608 Ocean View Drive, Oakland, Calif. 94618.

An Experience

Blackout at NY Headquarters Spells a Long Walk Down!

Corporate Headquarters in the General Dynamics building on New York's Rockefeller Plaza blacked out along with the rest of the city and much of northeast U. S. Nov. 9.

Scores who were still in the building at 5:28 p.m. when the power failed eventually reached ground level via stairs, but it was a long walk. From the 32nd floor to the ground there are precisely 676 steps, as counted by Mary Jane Gill!

The hero of the evening—or at least one of them—was Frank Ciofrone of the mail room. He led three groups down the stairs by flashlight. That meant climbing back up the stairs twice!

Heroine of the switchboard was Mrs. Nora McKinnon who stayed on duty until 11 p.m.

Most GD personnel eventually left the building but a half dozen spent the night sacked out on sofas, probably figuring that it was pointless to try to get home.

Mary Jane Gill had more reason than others to count the steps. That morning she had injured her knee in a sidewalk fall and made the descent with one leg stiff with bandages. So it was one step at a time.

"At street level all I could do was wonder if either leg would carry me farther," she reported. "But they did, and through the grace of Ray Joseph's husband, who had driven into the city to rescue us, I got as far as Queensboro Plaza, where Mary Flynn parks her car, and thence home in Mary's car!"

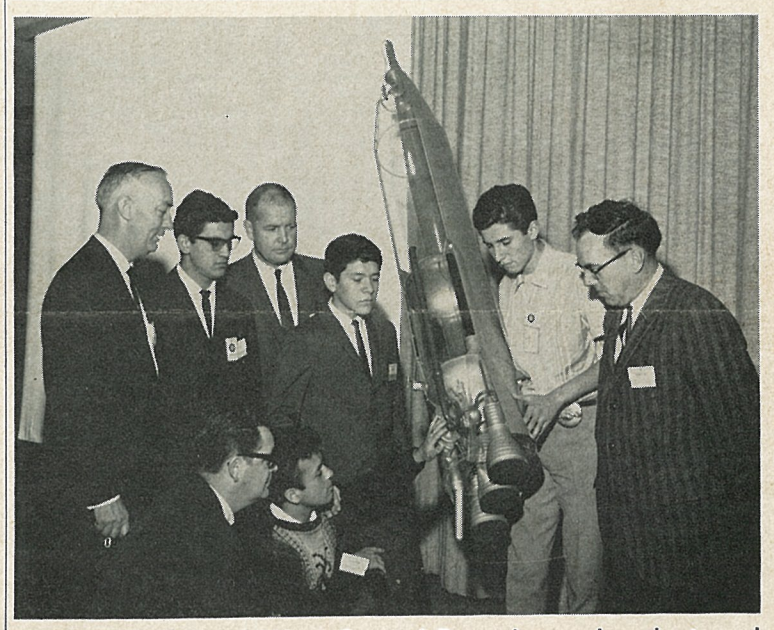
Jack Hurley's experience was typical of those who had left for home before the power failure. He was three minutes out from Grand Central when the train stopped. Battery power lighted the car and Jack spent the next eight hours playing gin rummy and lost $5.20. The game was called on account of darkness at 1:30 a.m. as the batteries gave up.

Ellen Murphy, caught in a stalled Queens-bound train, described the next 5½ hours as "actual terror—the only word I can use."

"At first everyone seemed unconcerned. After the first hour those who had been sitting began to offer the 'standees' a rest. We kept switching. By the third hour many started to panic. The temperature must have been 90 degrees—women were fainting, men began forcing doors."

Eventually, emergency crews led the 4,000 train riders a quarter of a mile along an 18-inch ledge to street level and fresh air. Two hours, two buses, and one auto ride later (1:30 a.m.) Mrs. Murphy was home.

"My husband met me at the door with a daiquiri in his hand!"



AMIGOS AND HOSTS — General Dynamics employe hosts and the "Amigos" from Peru that have been staying in their homes look over Atlas model in Bldg. 2 presentation room at Kearny Mesa. Kneeling are R. E. Bailey of Convair and Luis Mezarina. Others, left to right, are J. J. Beckman of Convair and Julio Sanchez, J. E. Bennett of General Atomic, Francisco Diaz, Juan Salas and G. B. Heveron of General Atomic.

Amigo Students From Peru Taken on Tour of Kearny Mesa

Twenty-five "Operation Amigo" high school students from Peru visited Convair at Kearny Mesa and had a picnic lunch in the Missile Park pavilion Nov. 15.

The Amigos spent three weeks in San Diego living with families of students at University High School. Six were house guests of General Dynamics employes—R. E. Bailey, J. J. Beckman and K. R. Thompson of Convair, J. E. Bennett and G. B. Heveron of General Atomic and G. M. Wolfe of Electronics-SD.

Ray T. Blair Jr., assistant to the Convair general manager, briefed the group on General Dynamics divisions and products and showed them slides of Atlas and Centaur launches, the Charger, life sciences projects, the computer laboratory and the electronics manufacturing area.

The Amigos also were taken on a tour of the SLV and Centaur assembly area. R. R. Serrano of Dept. 145-1 and J. A. Mendoza of Dept. 141-3 at Kearny Mesa served as interpreters.

Next Salvage Sale Will Be Sat. Dec. 4

There will be no salvage yard sales to employes this coming Saturday, due to the Thanksgiving holidays.

Lindbergh Field salvage yard near Gate 5 will be open as usual the following Saturday (Dec. 4) from 8 a.m. until noon. It will be the only yard offering material to employes, hereafter, and will be open every other Saturday except on holiday weekends.

Data Processing's Mascot Disappears

Data processing computer room personnel in Dept. 101-1 at Convair Kearny Mesa have been wondering who has taken the plastic Mickey Mouse that has served as their mascot since 1957.

Department representatives said Mickey came as a gift from IBM with Convair's first "big computer"—the 704. He disappeared three weeks ago from his home inside the core storage box of the direct couple system computer. A notice has been posted offering a "two-bit reward" for information leading to his return.



COST CUTTERS — Value engineering workshop team leader H. R. Kennedy, standing, looks on as team members discuss means for cutting cost of production of pneumatic cylinder umbilical disconnect for space launch vehicles. Team members, left to right, are R. L. Cooley Sr., H. W. McIntyre, J. M. Lawyer and W. R. Williams.

Value Engineering Workshop Tackles Variety of Hardware

Thirty-four Convair employes and two Air Force officers last Friday completed the last two-week Value Engineering Workshop of the year and the 46th to be given under auspices of the educational services section.

Two of the eight workshop teams spent the 10 days studying and applying VE concepts in trying to determine how to more efficiently or more economically produce assemblies used in separating Orbiting Astronomical Observatory payloads from their launch vehicles.

Other teams evaluated Centaur hydraulic pump assemblies and transducer power supply assemblies; SLV electrical harness installations, transducer panel assemblies and pneumatic cylinder umbilical disconnects; and F-106 external fuel tank access door assemblies.

The Air Force officers enrolled in the workshop were Capt. Harry L. Arthur and Capt. Frank M. Hilbish who are spending several months at Convair under the Air Force Institute of Technology's "education with industry" program.

Project leaders for the workshop teams were D. E. Evanson of Dept. 493-0, G. W. Webber of Dept. 406-0, C. G. Erickson of Dept. 561-0 and H. R. Kennedy of Dept. 127-0. Everett Lindem of educational services was coordinator.

Teams and their projects were:

Team No. 1—Hydraulic pump assembly (submitted by operations). Capt. H. L. Arthur, USAF; B. V. Bodnieks, Dept. 551-4; D. R. Bryson, Dept. 019-0; K. D. Nichols, Dept. 197-0, and W. A. Pickens, Dept. 562-2.

Team No. 2—Electrical harness installation (submitted by operations). Eric Herz, Dept. 543-2; A. F. McAlister, Dept. 988-4; B. B. Michael, Dept. 403-1; H. L. Wade, Dept. 041-0, and F. J. Winger, Dept. 147-0.

Team No. 3—OAO retroforce system valve, tube and nozzle assembly (submitted by operations). R. H. Boggs, Dept. 533-2; Capt. F. M. Hilbish, USAF; S. T. Special, Dept. 759-0, and J. L. Gimbrone, Dept. 551-2.

Team No. 4—OAO retroforce system helium bottle and bracket (submitted by operations). E. W. Allen, Dept. 493-0; A. R. Burge, Dept. 551-4; H. G. McDonough, Dept. 146-5, and L. E. Mallouf, Dept. 522-6.

Team No. 5—Transducer panel assembly (submitted by engineering). A. A. Farmer Jr., Dept. 551-2; R. S. Vernor, Dept. 760-0; A. J. Washburn, Dept. 553-1; J. H. Maloney, Dept. 250-2, and B. H. Hoerl, Dept. 542-0.

Team No. 6—Transducer power supply assembly (submitted by engineering). R. J. Dunn, Dept. 544-4; R. V. Harland, Dept. 142-2; T. C. Smith, Dept. 491-0; B. R. Zillgitt, Dept. 506-1, and J. D. Parker, Dept. 250-2.

Team No. 7—External fuel tank access door assembly (submitted by engineering). Sam Humphrey, Dept. 522-6; M. T. Lien, Dept. 551-4; R. L. Stanberry, Dept. 143-1, and W. M. Wohlwend, Dept. 420-8.

Team No. 8—Pneumatic cylinder umbilical disconnect (submitted by engineering). R. L. Cooley Sr., Dept. 672-0; H. W. McIntyre, Dept. 522-8; W. R. Williams, Dept. 819-0, and J. M. Lawyer, Dept. 523-7.



FIVE MILLION — D. O. Brending, Stromberg-Carlson district sales manager, (right) presents plaque to George Bynum, North American Aviation Corporate director of electronic data processing, (left) marking one-million feet of data output on S-C 4020 Computer Recorders at five North American divisions. In center is Will Olson, assistant director of EDP for NAA General Offices.

North American Process Centers Pass Million Ft. Mark on S-C 4020

Representatives of five North American Aviation electronic data processing centers were presented plaques recently by the Data Products Division of Stromberg-Carlson Corp., for their extensive use of S-C 4020 Computer Recorders.

Each award acknowledged that an NAA electronic data processing facility has produced over one-million feet of graphical data output on the S-C 4020 which Stromberg-Carlson manufactures. Awards were presented at a dinner meeting at the Sportsman's Lodge in North Hollywood, Calif.

Four of the high-speed recorders are in use by NAA divisions in the greater Los Angeles area.

A special "five-million feet" award was presented George Bynum, NAA Corporate Director of EDP.

Jet Propulsion Laboratories also was awarded a plaque recently for producing more than one million feet of graphical output on the S-C 4020.

The S-C 4020s translate computer-generated digital codes into graphs or ordinary language and record the data directly on microfilm or photorecording paper.

More Unions Sign 5-Year Agreements

Five year collective bargaining agreements have been reached with three other unions at Convair division since the Oct. 11 signing with the International Association of Machinists.

They are the International Brotherhood of Electrical Workers, the United Welders of America and the Engineers and Architects Association.

The agreements are very similar to the IAM contracts reached at both Convair and Pomona divisions **(GD/NEWS, Oct. 27, 1965)** and include the same benefits of wage increases and improved retirement, holidays and other benefits, as well as participation in a Savings and Stock Investment Plan (hailed as the best in the industry), as soon as certain approvals can be obtained. Under the Savings Plan, General Dynamics will add 50 cents to every $1 saved.

Contracts call for a basic 40 cents an hour wage package over the five year span. Provided are 8-cent-an-hour wage increases in each of the five years. The cost of living program has been revised by which 8 cents of the previous 14 cents cost-of-living adjustment becomes part of the employe's base rate. The remaining six cents continue as part of the cost-of-living adjustment, together with provision for additional adjustment if this becomes necessary.

Two additional holidays are provided, one, effective this year, is the day after Thanksgiving. Still another paid holiday (bringing the total yearly to 10) will be effective in the fifth year of the contracts.

Three weeks vacation after 10 years' service is effective now and during the fourth year of the agreements it will be four weeks of vacation after 20 years service.

In addition, more dependents' insurance and more life insurance is paid for by the Company; hospital room and board coverage and surgical rates are improved; major medical coverage is doubled; retirement benefits are improved with earlier vesting.

The new contracts at Convair involve 90 represented by the IBEW, 50 by the UWA and 640 hourly technical employes represented by EAA.

William P. Engelfried, EAA's contract administrator, hailed the agreement as "helping to stabilize the economy of the San Diego community . . . and will give General Dynamics a firm footing to reach out and bid for new business."

Convair's M. V. Wisdom, director of industrial relations, said the new EAA contract, as well as those reached previously with IBEW, the United Welders and the IAM are realistic and agreed that the settlements, assuring five years of labor peace, will be important in the Company's long term competitive bidding for new business.

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Electronics division's facility at San Diego also reached agreement with the IAM for a five year span, as well as with the EAA. Although these contracts do not follow the pattern of the aerospace industry, wage and benefit packages are outstanding in the electronics industry.

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Pomona division also reached agreement with the EAA last week on a five year contract including wage increases and substantially improved benefits.

Electronics Assn. Elects D. C. Prim

D. C. Prim, general manager of Electronics division operation in San Diego, is new secretary-treasurer of the San Diego Council, Western Electronic Manufacturers Association, following election early this month.

The association represents more than 350 electronic companies in the Western states.

Sturdy 440, Tree Chunk Jammed Into Wing, Flies on and Lands!

Because Convair builds sturdy planes, four Scandinavian Airlines' crew members are alive to tell the story of a near-disaster.

The four, an instructor pilot and three trainees, credit the stout Convair-Liner for saving their lives when the 440 they were flying was severely damaged during a landing approach at Arlanda Airport, Stockholm, Sweden late last month. Although the plane received extensive damage to wings and fuselage when it hit treetops on the approach, the crew was able to pull it up and land it safely on another runway.

Wings, fuselage, horizontal stabilizer were penetrated by tree branches and trunks. A chunk of a pine tree, a foot through, was sheared off and remained in the crumpled right wing! But the Convair plane still flew!

Captain Esbirk, the SAS instructor pilot, conveyed his "heartfelt thanks to all at Convair who were responsible for the design and construction of an airplane with such structural integrity."

Knut Hagrup, SAS executive vice president-technical and operations, extended his appreciation to Convair management for the prompt assistance given SAS in assessing the damage and working out repair methods.

On the spot within hours were Ted Laven, GD Corporate European representative-sales, and Mel Clause, Convair customer service representative based at Zurich, Switzerland. T. L. Heid, Convair structures specialist, flew from San Diego to work out a repair plan. Convair service parts, under John Doig, was alerted on parts requirements which SAS will need to replace spares used to put the 440 back in operation.

Centaur Test, C-141 Assembly Earn Awards

Convair "Craftsmen of the Month" honors went for the first time in October to Centaur test operations (Dept. 974) at Kearny Mesa and C-141 empennage assembly (Dept. 041) at Lindbergh Field.

Other winners for the month were Dept. 576-18 (ABRES A) at Western Test Range, its third win, and Dept. 571-1 (Complex 13) at Eastern Test Range, its second win.

Quality index figures for the winning departments were 127.6 for Dept. 576-18 at WTR, 125.2 for Dept. 571-1 at ETR, 118.6 for Dept. 974 at Kearny Mesa and 111.4 for Dept. 041 at Lindbergh Field. All quality index values over 100 indicate current performance is better than past performance.

During October, Dept. 576-18 (ABRES A) at WTR had a perfect 0.00 quality level factor in the competition while Dept. 571-1 (Complex 13) at ETR had a 1.05 quality level factor. Both have quality levels based on average number of defects per 100 inspection tasks.

Centaur test operations Dept. 974 at Kearny Mesa had a quality level of .80 for the month and C-141 empennage assembly Dept. 041 at Lindbergh Field had a quality level of 2.13, with both figures representing the average number of defects per 100 manhours expended.

Civil Engineering Courses Scheduled At State College

Three evening graduate-level civil engineering courses have been scheduled for the spring term by the School of Engineering at San Diego State College. All are three unit courses.

A matrix analysis of structures course will be given from 6:15 to 7:30 p.m. Mondays and Wednesdays with Dr. J. Rashid, an associate staff engineer at General Atomic, as instructor.

An advanced foundation engineering course will meet from 4:45 to 6 p.m. Mondays and Wednesdays with Dr. I. Noorany, assistant professor of engineering, as instructor.

A seminar in geometronics (legal aspects of surveying) will be held from 7 to 9:45 p.m. Tuesdays with Curtis M. Brown, a lecturer in engineering and consulting geometronics engineer, as instructor.

New students or students not currently enrolled in the graduate program must apply before Dec. 15.

An extension course in construction administration and scheduling—not a part of the graduate program—also will be held from 7 to 9:45 p.m. Thursday with Charles McMahon, a consulting construction engineer, as instructor. It is not necessary to be registered in the college in order to take the extension course. Registration forms will be filled out at the first class session.

Convair Bowlers Win In Industrial Event

Convair bowlers took over half the awards in Industrial Recreation Council tourney play this month at Pacific Recreation alleys. Of the 400 keglers entered, 80 were from Convair, said Forrest Erwin and Mike Brooks, who coordinated Convair participation.

First in the men's division was won by the Analoggers with Vic Baros, captain. The Lucky Five, captained by Paul Aslin, took fourth.

Del Dimmitt's Fire Dept. "4 plus 1" team won the mixed division. Second spot went to Astro Mixers, headed by Erwin.

Swede Swearingen held high individual game with 237. Gil Gifillian's 682 was good for high individual series.

Atomic's Rowland Heads Safety Group

Three General Dynamics men have been elected officers in the San Diego chapter, American Society of Safety Engineers.

They are S. W. Rowland Jr., of General Atomic, president; J. W. Garrison of Convair, secretary; B. G. Bonner of General Atomic, national representative.

Although only a year old, the chapter won the "Outstanding Chapter Award" for 1965 for the Western Region, competing against chapters in six states. Other GD members include: R. W. Bloomquist, L. J. Breen, J. H. Cooper, Yale Naliboff, R. P. Schulz, L. D. Simmonds, M. C. Val Dez.

Dec. 5 Is Deadline For Exam Filing

Dec. 5 is deadline for filing for the April 16 state mechanical, electrical, civil, chemical and petroleum engineering examinations in San Diego. Application forms can be obtained by calling Mrs. June Hinkle at 232-4361, ext. 374.

A review class in mechanical engineering will be offered by University of California Extension beginning Jan. 3. Inquiries may be directed to the Extension office downtown or to W. W. Sevier at ext. 1895 or D. R. Lukens at ext. 2881 at Kearny Mesa.

Con-Trib-Club Thanked By Salvation Army

Convair Employes' Con-Trib-Club was singled out for special recognition at the Salvation Army's observance of its 100th anniversary early this month.

J. K. Field, Con-Trib chairman, accepted a plaque on behalf of all Convair Con-Trib members for the financial aid diverted over the years to Salvation Army philanthropic activities.

Sports & Recreation

Two Score Tee Off in Women's Golf Tourney at Mission Bay

One of the largest links tournaments to be held by GD Women's Golf Club saw 39 teeing off Nov. 13 at Mission Bay course for turkeys and merchandise certificates.

CRA trophies went to Helen Wood Sunkel, low scorer in Flight A, and Betty Jackson, winner of Flight B.

Turkey winners were Arlene Talmadge and Vi Hirst, first and second-placers in Flight A, and Kathryn Hagley and Dorothy McEwen, Flight B.

Merchandise certificates from Mission Bay golf course were won by: Flight A—Lois Cornwell, Rachel Hackney, Jerri Cooper; Flight B—Florence Kell, Ora Carpenter, and Juanita Garcia.

Gerry Swanson, Floria Cooper and Evelyn McFall each won two weeks' free golf at Mission Bay.

Members will hold their annual Christmas party Dec. 2 at the home of Joy Ward, 2172 March Place, Clairemont.

CONVAIR COINEERS WIN EXHIBIT AWARDS

Over 1,700 visitors viewed the some 175 exhibits at the 37th semi-annual convention of the California State Numismatic Association the first weekend of this month at El Cortez Hotel.

Al Baber of Convair was general chairman. Other Convair men taking part included Joe Garside, forum chairman. Vince Bacon, commissioner of the CRA Coineers, spoke on U. S. coins and Raymond S. Toy, former president of the Convair Coin Club, gave an illustrated talk on World War II Allied Military Currency.

Baber took awards for each of three displays—a first for "Convair Medals," second for "U. S. Small Cents," and a third for "Modern Japanese Type Set."

James D. White of Convair won a third with "Currency of the Thirteen Colonies."

Among other Convair exhibitors were Toy who showed "U. S. Military Payment Certificates"; Ernest Meyer, "Foreign Gold of the 20th Century"; Pearl Johnson, "Lincoln" and "This and That of Lincoln"; Frances Tuttle, "Great Moments of History"; Glenn Tuttle, "Memorial to Famous Men."

Last 'Mexico Xmas' Call Is Sounded

Last call is out for GD travelers planning to join the "Christmas in Mexico" group tour, sponsored by Convair Management Club, Dec. 18-Jan. 2.

Jim Hardison, tour conductor, still is accepting reservations through his home phone, 276-5805.

Package price for transportation, hotel accommodations, most meals, and sightseeing admissions is $385 each.

Bob Herold Added To CRA Tennis Staff

Bob Herold has been named CRA co-commissioner of tennis and table tennis activities to assist Ray Hardy in coordination of the popular sports, announced J. K. Field, chief of employe services, who administers Convair Recreation Association.

Herold has been playing tennis 20 years, since his college days at Heidelberg College, Tiffin, Ohio, and admits to relocating his family in sunny California several years ago to be able to enjoy it year-round.

He was actively connected with the former ARA tennis group for four years.

Under Hardy and Herold's tutelage at least 70 have completed the continuing tennis instruction courses since April and the CRA club has expanded from 40 to 150 members. They also have made table tennis instruction available on a regular basis.

Herold joined Astro engineering in 1957 and since 1958 has been in quality assurance engineering in reliability control.

50-Straight Scored By Two Marksmen

A flip of a coin decided who could take home top prize in CRA Gun Club's open competition Nov. 7 when two gunsmen scored 50-straight.

Bill Betteridge and Carl Thacker topped a field of 35 to shoot 25-straight in both 16-yd. and handicap events. Betteridge won the toss to get the transistor radio, given as first prize. Thacker was just as happy with his reward—a jacket and pants rain set!

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS is noon, Dec. 1, ext. 3322, Kearny Mesa.)

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BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BONAIR FLYERS — Meeting Dec. 7, 7:30 p.m., CRA Clubhouse.

BRIDGE—Special master point night Nov. 26, CRA Clubhouse. Monthly master point night rescheduled for Dec. 10.

CERAMICS—Instruction Tues., Wed., Thurs. evenings, 7:30-10:30 p.m.; Wed. mornings, 10 a.m.-1 p.m., CRA Clubhouse.

DRAMA — Triangle Players present "Present Laughter" each evening today (Nov. 24) through Nov. 27, CRA Clubhouse theater.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Meeting Dec. 1, 7:30 p.m., Floral Association Bldg., Balboa Park.

GOLF — Sign-ups accepted starting today through Nov. 30 for Dec. 4-5 tourney, Circle R. Call ext. 1111, Kearny Mesa.

GUN CLUB — Club shoot Dec. 5, Gillespie Field. Entry blanks for big game drawing at CRA Clubhouse and all employe services outlets.

ICE SKATING — GD skate night Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MOVIES — Reduced prices for GD people at State Theater, Euclid and El Cajon Blvd. General admission: adults, $1; children, 35¢.

PISTOL CLUB — No shoot this Sunday (Nov. 28). Turkey shoot Dec. 12, 9:15 a.m., SD Police Pistol Range, Federal Blvd and Home Ave.

SCULPTURE—Workshop sessions Mondays, 7:30-10:30 p.m., CRA Clubhouse.

SKI CLUB — Meeting Dec. 7, Catamaran Hotel, 8:30 p.m. Ski trips to Mammoth Mt., Nov. 25-28, Dec. 4-5. Swap meet Dec. 1, CRA Clubhouse auditorium. Call Joe Harris, 284-0278.

SPORTS CAR CLUB — Meeting Dec. 8, 7:30 p.m., Convair executive dining room, Pacific Hwy.

TENNIS — Fall tennis tournament Dec. 4-5, 11-12, 18-19. Entry deadline Nov. 29. Entry forms at CRA Clubhouse and employe services outlets.

TOASTMISTRESSES — Serra Mesa Toastmistresses meet first and third Mondays, 7:30 p.m., CRA Clubhouse.

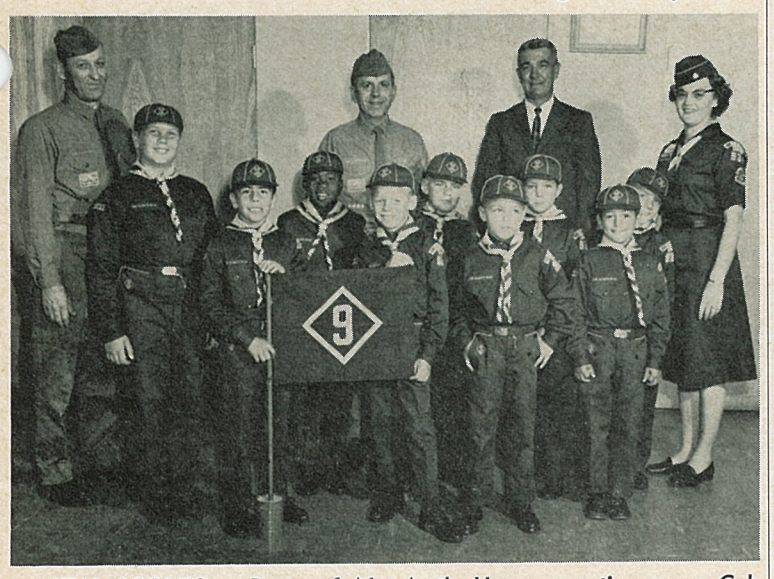
Convair Men and Mgt. Club Spark Effort to Assist Youngsters

Nine small boys are proudly sporting natty new Cub Scout uniforms through courtesy of the Convair Management Club.

The youngsters, who live at Nazareth Home, would never have had a chance to take part in scouting activities if efforts of two Convair men and the Management Club had not combined to provide the means. The home on Friar's Road cares for many homeless and underprivileged children, but can't afford the extras.

Frank Szafranski of Dept. 578-2, cubmaster of Pack #934, and Lawrence Potter (Dept. 970-1), assistant cubmaster, spearheaded the drive to bring scouting to Nazareth Home boys and enlisted the Management Club's help. The Management Club, ever alert to development of youth in the community, voted $100 for the uniforms.

Now the 8 and 9-year-olds are busy getting initiated into scouting in a new Den 9 of Cub Scout Pack #934, affiliated with St. Therese Catholic Church in Allied Gardens. Mrs. A. P. Terzich, as den mother, holds meetings each week in Nazareth Home, and fathers of other scouts provide transportation to pack meetings once a month.



NEW SCOUTS — Boys of Nazareth Home sporting new Cub Scout uniforms supplied by Convair Management Club, are from left, John Graham, John Esqueda, Larry Stewart, David McDonough, Mark Flournoy, Garry San Pietro, Gilbert Villavicencio, Robert Bigelow, and Robert Brozovich. In rear are L. R. Potter, assistant cubmaster, F. J. Szafranski, cubmaster, both of Convair; A. P. Terzich, committee chairman; and Mrs. Terzich, den mother.—Photo by Ray Starr of Convair.



NEW SLATE — Bob Hayward (second from left), new president of CRA Sports Car Club, accepts gavel from outgoing prexy, Al Oehler. Other newly-installed officers are (from left) George Nicoloff, vice president; Barbara Simpson, secretary; and Jack Gallant, treasurer.

CRA AND MGT. CLUB PLAN NET TOURNEY

A fall tennis tournament, co-sponsored by CRA and the Convair Management Club, will be held Saturdays and Sundays, Dec. 4-5, 11-12 and 18-19 on the Mesa College and Morley Field courts. Semi-finals and finals will be at Mission Valley Tennis Club.

All Convair employes and members of their families are eligible. Deadline for entry is Monday, Nov. 29. Forms can be obtained at employe services and CRA Clubhouse.

Trophies will be awarded winners and runners-up positions in each event.

Singles, doubles, mixed doubles and man and wife team events will be held with advanced, intermediate and novice classes. A 75-cent singles and 50-cent doubles entry fee will be collected to underwrite trophy cost. Balls will be furnished.

Entry forms are to be forwarded to Ray Hardy, mail zone 845-30, or Bob Herold, mail zone 141-30, at Kearny Mesa. Further information can be obtained by phoning Hardy at ext. 3866 or Herold at ext. 3392.

Clubhouse Handling All Ticket Sales

All ticket sales arranged by CRA now are handled at the CRA Clubhouse, Kearny Mesa. Tickets to local attractions, involving exchange of money, no longer will be available at Kearny Mesa employe services.

However, Lindbergh Field, Stromberg-Carlson, and Electronics employe services outlets will continue to handle ticket sales, as well as exchange discount tickets.

Exchange tickets now available at all employe services (including Kearny Mesa) include those for Old Globe Theater's play, "Inherit the Wind," running from Nov. 23 to Dec. 19, and the movie "Marriage on the Rocks," showing at Cinema 21.

Other discount offers are for Mission Bay Sportsfishing, Sea World's Dolphin Club, Disneyland Magic Kingdom, Coliseum Professional Boxing, Frontier Town, Movieland's Wax Museum, Jai Alai Fronton, roller skating at Skateland.

Sculpture Workshops Continue on Mondays

Carol Freno (Dept. 210) is coordinating activities of the CRA Sculpture Club during the temporary absence of Sid Gutherz, studio manager.

Members meet regularly on Monday evenings for workshop sessions in CRA Clubhouse. The workshop is open at 7:30 p.m.

Anyone wishing information on the group may call Carol at ext. 2408, Kearny Mesa.

Pistol Club Drops Shoot For Holidays

CRA Pistol Club has cancelled its regular shoot this Sunday because of the Thanksgiving holidays, reminds Commissioner Joe Williamson.

Next, and last shoot of the year, will be Dec. 12 at the San Diego Police Pistol Range with two turkeys at stake in a "luck" event. The Nov. 14 club shoot was rained out.

Entries Open Today For Next CRA Golf

Entries open today for CRA's next golf tournament to be Dec. 4 and 5 at Circle R.

Starting times will be assigned through Nov. 30, deadline date, said CRA Commissioner Ken Wulfemeyer. Call ext. 1111, Kearny Mesa.

Leaders Announced In Fall CRA Bridge

H. R. McCullough and Mitzi Rustad continued to lead the fall series of the Convair Bridge Club with two victories each. Standings in the current series are determined by total fractional master points won in non-master point events held Friday evenings in CRA Clubhouse.

McCullough and Mitzi Rustad teamed to take north-south honors in Oct. 22 play. Al Buggele and Stella Christy were east-west winners. On Nov. 12, H. R. McCullough and C. R. McCullough won north-south; Bob and Mitzi Rustad, east-west.

At the monthly master point night Nov. 5 Jo and Tony Miller were north-south winners, and Jim Stephenson and Buggele, east-west.

A special master point event will be held this Friday night, Nov. 26. The regular monthly master point night for December is set for Dec. 10, postponed a week from the usual date to allow CRA bridge players to take part in the Pacific Southwest Regional tournament of American Contract Bridge League at Coronado, Nov. 30-Dec. 5.

Classes in Ceramics Offered at Kearny

Classes in ceramics are offered all General Dynamics people at CRA Clubhouse, Kearny Mesa, three evenings a week and one morning.

Ann Pettit instructs Tuesday, Wednesday, and Thursday, 7:30-10:30 p.m., and Wednesday, 10 a.m.-1 p.m.

Supplies may be purchased at discount through CRA arrangements.

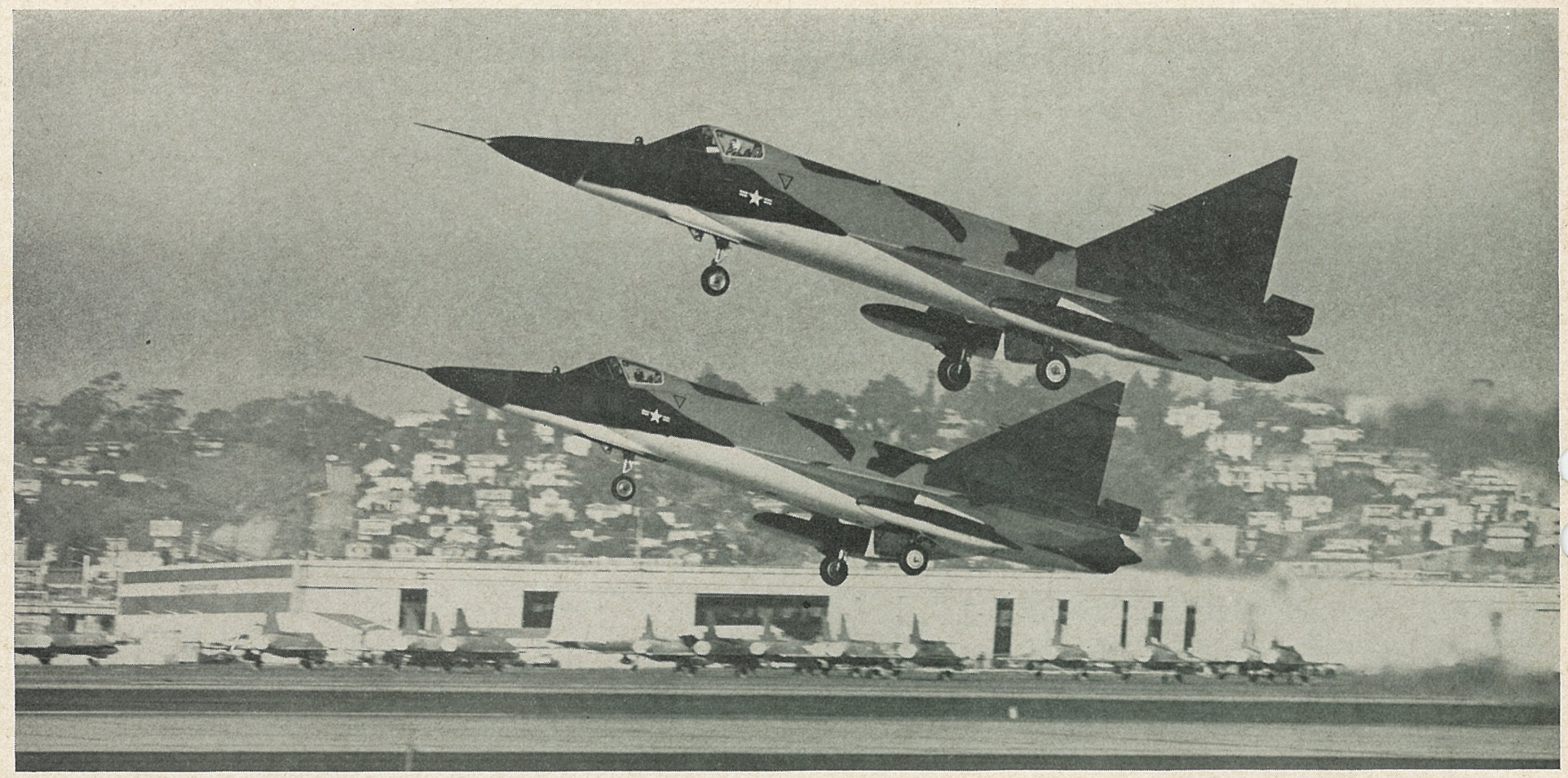
Bargain Chargers Tickets on Sale

Reduced-price tickets to Chargers' next home game will go on sale Monday (Nov. 29) at CRA Clubhouse, Lindbergh Field, S-C, and Electronics employe services. No tickets will be sold at Kearny Mesa employe services.

Chargers will play New York Jets on Saturday, Dec. 4, at 1:30 p.m. in Balboa Stadium. Regular $3.50 reserved seats are offered GD football fans for $2.50.

TABLE TENNIS, POOL FACILITIES SET UP

Employes at the Kearny Mesa plant who would like to get in a little exercise and recreation during their lunch periods can now shoot pool or bat table tennis balls in the CRA Recreation Area. Four pool tables and two ping-pong tables have been installed in Western Town in the picnic area across from the plant. They will be available for open play from 11 a.m. to 1 p.m. throughout the week.



DOUBLE TAKE-OFF — Twin F-102s, alike as peas in a pod in camouflage dress, were caught by Convair Photographer Pete Autio as they lifted, seemingly together, from Lindbergh Field flight line late last month. Convair-built jet interceptors are part of group of F-102s returning to San Diego from Travis AFB for new paint job. Air Force pilots fly planes to San Diego and back to Travis. Painting is being done by Convair Service Center.

Brainpower, Equipment Pooled In Drive For Surveyor Success

When the Surveyor SC-1 spacecraft makes a soft landing on the moon, much of the credit for success can be traced directly to joint effort and close cooperation between personnel from NASA's Lewis Research Center, the Jet Propulsion Laboratory, Hughes Aircraft Co. and Convair.

Convair's Atlas-Centaur Seven will launch the Surveyor from Complex 36-A at Kennedy Space Center and send it down the Eastern Test Range and into its 240,000-mile trajectory to the moon.

The SC-1 Surveyor engineering model will be enclosed in a Convair-built nose fairing mounted atop Centaur.

Bob Benzwi, chief of Centaur payload integration, said cooperation among personnel from the four organizations concerned has been excellent.

"Success of the mission has been the sole objective of all," he said. "In each of our jointly conducted tests, personnel from NASA, JPL, Hughes and Convair have acted as one team, pooling brainpower and equipment to the fullest."

The Surveyor SC-1, being built by Hughes under contract to JPL, is now undergoing extensive testing prior to being shipped to Kennedy Space Center.

An engineering prototype, designated T-21, in May was put through a series of combined systems tests with the Atlas and Centaur in NASA's Combined Systems Test Stand at Kearny Mesa.

The tests, a part of the Surveyor Pathfinder program, demonstrated for the first time not only the compatability of the Atlas, Centaur and Surveyor systems but benefit of the CSTS itself.

Joint effort in the Pathfinder program was concluded at Kennedy Space Center where a simulated launch countdown was conducted and "sniffer" toxic gas detectors were calibrated in an "operational environment."

Hypergolic fuels to be used in the Surveyor vernier engine system are highly toxic. The "sniffer," built by Hughes and installed by Convair, will be used to alert launch personnel in case of leaks.

Benzwi said current important joint activity being conducted at Kennedy Space Center includes electro-magnetic interference tests to ensure that electrical systems of the three vehicles are compatible.

Cooperation between Convair and the other organizations also was evident during the preparation and August 11 "perfect launch" of Atlas-Centaur Six, which placed a "dynamic model" of Surveyor into a trajectory toward a "simulated moon." The model was jointly developed with Convair building the retromotor simulator and Hughes building the spaceframe and its instrumentation.

Because of the accuracy with which Centaur injected the "dynamic model" into its trajectory flight path, less than 10 per cent of the Surveyor's correction capability would have been required to have hit the desired impact area on the moon.

Surveyor SC-1 is to land on the lunar surface about 63½ hours after liftoff.

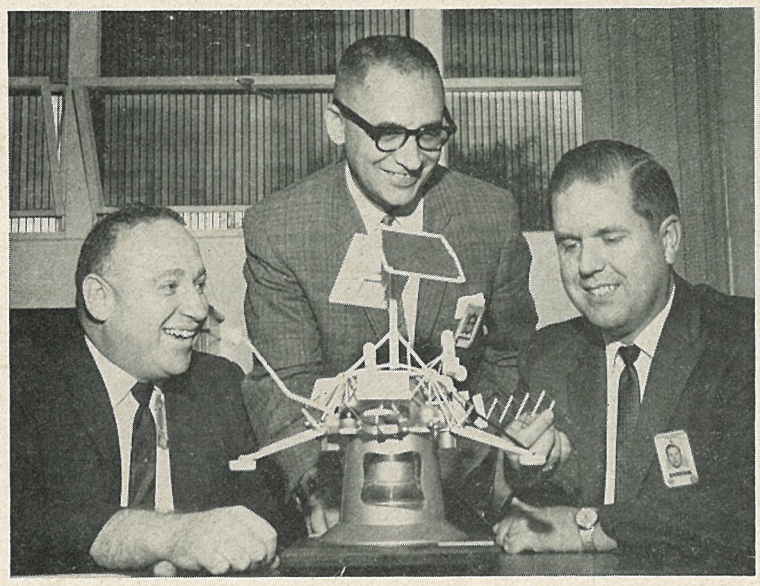
The Atlas booster is to drop away about 2½ minutes after liftoff with the Centaur insulation panels and nose fairing to be jettisoned early during the Atlas sustainer phase.

After a total Atlas flight of about four minutes and a Centaur "burn" of about 8½ minutes, the Surveyor will be injected into its lunar flight path over the Atlantic near the coast of Africa.

While the Centaur mission is being completed, Surveyor will search out and "lock on" to the sun and the star Canopus for navigational aid, then will undergo a series of maneuvers on command from the JPL Goldstone Tracking Station in California's Mojave Desert.

Lunar landing operations will begin 63 hours into flight. Firing of retro and vernier engines will slow the Surveyor from 8,900 feet per second down to about 5 feet per second and position it for a soft lunar landing. Two television cameras are to make photos during the descent.

The Centaur vehicle will bypass the moon as the Surveyor lands.



LUNAR LANDER — One-tenth-scale model of Surveyor spacecraft scheduled to ride atop Atlas-Centaur and make a soft landing on the moon is examined by Ronald Rovenger, left, NASA resident manager and Centaur assistant program manager, Bob Benzwi, center, chief of Centaur payload integration, and Grant L. Hansen, vice president and Centaur program director.

Safety Engineers From GD Divisions Exchange Techniques

F. R. Temple, FW chief safety engineer, recently represented General Dynamics at the first employe safety subcommittee meeting of Aerospace Industries Association in Washington, D. C.

"New federal regulations, laws, standards and industry hazards—with suggested safeguards—were reviewed," Temple said.

Temple also attended the National Safety Congress and the annual meeting of American Society of Safety Engineers in Chicago. He is a national director.

Following the latter meeting, the following safety engineers from various General Dynamics divisions met to exchange ideas: George Milne, Canadair; Jack Garrison, Convair; B. G. Bonner, General Atomic; Arvid Tiensen, Material Service; and Temple.

F-111 No. 5 in Florida For Subsystems Test

With the governor of Florida and a host of military dignitaries looking on, F-111 No. 5 winged into Eglin AFB late last month to begin another phase of testing for the variable-wing fighter.

Full-scale subsystems testing of the electronic counter measures and traffic-control systems will be carried out in the months ahead.

Gov. Haydon Burns was hosted by Maj. Gen. James E. Roberts, Air Proving Ground Command commander, and C. C. Widaman, Fort Worth division base manager at Eglin, during official "unveiling" of the F-111 following its arrival.

"Immediately after taxi-in, Charlie Gates of Dept. 507 and his maintenance crew started preparing the airplane for a static display and its first offsite flight," Widaman said.

The airplane had a "very productive first flight" the following day, with Earl Guthrie, Dept. 152, and C. B. Cox, Dept. 567, at the helm.

During the static display at the base, Governor Burns swept the F-111's wing as some 150 state and local dignitaries and representatives of news services looked on.

Ferrying the F-111 from Fort Worth to Eglin were Guthrie and Maj. H. M. West. Before landing, the crew made two low-level flybys—one with the wing extended, the other with the wing fully swept.

"Many of the onlookers were taking their first look at the F-111," Widaman said. "'As you can imagine, the flybys and taxi-in gave them quite a thrill."

Col. C. L. O'Bryan, APGC vice commander, was on hand to greet the crew.



CEREMONY — Eglin Base Manager C. C. Widaman presents Florida Governor Haydon Burns, second from left, with F-111 model during plane's "unveiling." Military dignitaries included Maj. Gen James E. Roberts, left, APGC commander, and Lt. Col. Gerald T. Rogers, chief fighter systems division F-111.

Bright Idea

Little Joe Part Goes to Hospital To Keep Schedule at White Sands

A Little Joe II launch vehicle part was rushed to the hospital at Las Cruces, N. M., on Veterans' Day — not for stomach trouble but to keep launch preparations on schedule at White Sands Missile Range.

According to an account in the Las Cruces newspaper, NASA's test director at White Sands, H. R. Van Goey, faced a day's delay when all X-ray facilities at the base were closed on the holiday.

Quoting the Las Cruces news story: "He remembered the extensive X-ray equipment at Las Cruces Memorial General Hospital used to investigate his ulcers last summer and contacted his physician to set the unusual request in motion."

Within an hour the "patient" had been X-rayed and the operation termed a success.

The Convair-built Little Joe II is being readied at White Sands for an early December launch in a series of tests of the Apollo escape system.

The coming test will see an actual Apollo command module, such as will house three astronauts in a trip to the moon, used for the first time.

SAN DIEGO EDITION

GENERAL DYNAMICS NEWS

Vol. 18, No. 25 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, December 8, 1965



Jack L. Bowers awards October Craftsmanship plaque to Tom A. Hutchinson, test conductor for Centaur test operations (Dept. 974) at Kearny Mesa. Bowers urged all Convair employes to put forth every effort to excel in workmanship — "we already are doing good work, now let us do better!"



Above, Bowers praises C-141 empennage assembly employes at Lindbergh Field plant as he presents Dept. 041 Foreman Paul Pearson with Craftsmanship plaque for October.

Mr. N. P. Pearson
Foreman, Dept. 041,
Convair Division,
Lindbergh Field.

Dear Mr. Pearson:

Please express my appreciation to the supervisors and the men in all the cost centers of your department upon winning the much coveted "Craftsman of the month" award for October 1965.

Your department's interest in a job well done, along with each individual employe's desire to perform repetitive tasks with zero defects, have been and will continue to be a major contribution to the high quality of the C-141 empennage.

Sincerely,
Mel Thurmon
Resident Source Inspection Rep.
Lockheed-Georgia Company

Coins From Reflection Pool To Buy Xmas Gifts For Needy

For the fifth year, personnel in the quality assurance department at Convair this Christmas will provide food, clothing and other gifts for the Pala Indians in northern San Diego County. R. H. Gilliland is department head.

Money tossed into the reflection pool in Bldg. 2 at Kearny Mesa during the next few days also will be collected and used to assist the needy Indian group.

The Indians live on the Pala Indian Reservation and around the old Franciscan mission at Pala, east of U. S. Highway 395 between Temecula and Escondido.

They represent the last remnant of the Diegueno Indians who were in the San Diego area when

(Continued on Page 2)

System Safety And Reliability Get Emphasis

More than 500 Convair space launch vehicle engineers last month attended three-hour seminars on use of reliability, maintainability and system safety principles to assure maximum success of vehicles launched.

The seminar sessions were divided into three parts—reliability requirements, failure modes and effects analysis and maintainability and system safety considerations.

Key speakers were Wally C. Seaforth, group engineer, and Richard K. Ruhe, research manager for reliability and maintainability. Dan Applegate, assistant SLV program director, and Charles Wilson, an SLV chief design engineer, gave introductory remarks.

Officials said the seminars placed major emphasis on the "logic and engineering judgment involved in these disciplines."

Interrelated effects of operating load to rated load ratio, operating temperature and vibration were illustrated to make the designers aware of the fact that there are many trade-offs to be considered when integrating a part or component into a design.

The session on failure modes and effects analysis showed designers how to determine possible ways parts or components

(Continued on Page 2)

Christmas Dinner Dec. 21 at Cafeterias

Convair employes at both Kearny Mesa and Lindbergh Field plants will be able to celebrate Christmas early with a special turkey dinner on Dec. 21 at plant cafeterias.

Charles Borgatta, regional manager for Prophet Co., says that both Kearny Mesa and Lindbergh Field cafeterias will serve complete dinners for $1, including tax, throughout the lunch periods.

The one flat price includes turkey, dressing, cranberries, potatoes, gravy, salad, vegetable, dessert, roll and butter, and beverage.

Peterson Succeeds As Sebold Retires

Appointment of Elmer R. Peterson as vice president-research and engineering for Convair division has been announced by



E. R. Peterson



R. C. Sebold

Jack L. Bowers, division general manager.

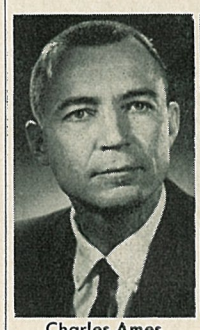
Peterson has held a similar position with Pomona division for the past three years. He replaces R. C. Sebold who is retiring after more than 35 years service with General Dynamics.

Bowers also announced new assignments for other members of his staff.

Grant L. Hansen, who has been vice president and program director for the Centaur high-energy upper stage program, has been given the new position of vice president-launch vehicle programs.

His responsibilities will include continued direction of Centaur as well as responsibility for the Atlas space launch vehicle and future launch vehicle systems.

Reporting to Hansen will be G. D. Davis, with responsibility for Centaur; J. S. Berggren, SLV-3; C. J. Dunn, D, E and F vehicles; R. W. Keehn, LV-3C and SLV-3X; and F. W. Miller, advanced program development; Andrew Kalitinsky, engineering; J. C.



Charles Ames



Grant Hansen

Cannady, finance; L. I. Medlock, reliability control; D. L. Fagan, WTR; B. G. MacNabb, ETR; T. C. Courington, contracts; and R.

(Continued on Page 2)

Delegation From Abroad Evaluates Convair 600

A technical evaluation team made up of engineers from Scandinavian Airlines System and Linjeflyg, Swedish domestic airline, visited Convair at San Diego late last month (Nov. 22-24) for three days of briefings on the Convair 600 turbojet transport.

They were particularly interested in the aircraft's systems, operation, and the overall conversion program of Convair-Liners to the turbojet version powered by Rolls-Royce Dart engines.

SAS has 19 Convair-Liner 440s in operation, while Linjeflyg flies 10 340/440s.

The group, from SAS bases at Stockholm, Oslo, Copenhagen, and Linjeflyg's Stockholm headquarters, was headed by Birger Holmer, SAS vice president of engineering, and Gunnar Wilkner, Linjeflyg manager of operations.

Other SAS representatives were Hans Sether, H. Meyer, and O. Fjeldstad. Accompanying Wilkner from Linjeflyg were Egan Biom and Lars Nilsson.

They were welcomed to Convair by Jack L. Bowers, general manager, and other Convair officials including C. L. Meador, vice president-contracts and commercial sales; J. H. Famme, vice president of aircraft programs; Mort Rosenbaum, director of program management; D. H. Digges, director of commercial contracts; P. M. Prophett, director of product development and service.

P. F. Mouritz, manager of commercial sales, arranged the in-

(Continued on Page 2)



600 EVALUATION — Engineers from SAS and Linjeflyg airlines at Convair to evaluate Convair 600 late last month inspect Hawaiian Airlines' 600/440 with Convair and Rolls-Royce representatives. In photo, from left, are C. L. Meador, Convair vice president-contracts and commercial sales; P. F. Mouritz, Convair manager of commercial sales; Birger Holmer, SAS vice president of engineering; Anthony Oldfield from Rolls-Royce Ltd., Montreal; Gunnar Wilkner, Linjeflyg manager of operations; Egan Blom, Linjeflyg; R. R. Hoover, Convair 600 program manager; Hans Sether, SAS; John Waite, Rolls-Royce Ltd.; Lars Nilsson, Linjeflyg; H. Meyer, SAS; B. J. Simons, Convair project manager-transports; O. Fjeldstad, SAS; G. D. Clark, Convair commercial sales and contracts.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between Dec. 1 and Dec. 15.

Thirty-year: Dept. 112-0, H. I. Morgan; Dept. 149-2, K. M. Mac Leod; Dept. 250-1, E. R. Fink; Dept. 847-2, F. E. Meer.

Twenty-five-year: Dept. 002-0, R. C. Beezley, R. A. Davis; Dept. 015-0, F. I. Garrison, Ladislao Maciel; Dept. 031-0, L. J. Baldwin, L. P. Peterson, L. D. Rush; Dept. 071-0, W. A. Reusch; Dept. 149-0, L. G. Lawson; Dept. 196-0, J. A. Gorman; Dept. 251-1, A. A. Burkhart; Dept. 401-4, C. E. Heller; Dept. 420-1, D. R. Nye; Dept. 506-0, L. E. Ottem; Dept. 507-0, W. A. Norstrom; Dept. 531-2, W. T. Myers Jr.; Dept. 532-1, R. C. Lane; Dept. 761-0, W. L. McBride; Dept. 835, W. B. Barth, R. E. Townsend; Dept. 838-3, H. L. Dixon; Dept. 963-4, B. J. Campbell.

Twenty-year: Dept. 071-0, C. A. Hicks Jr.; Dept. 101-6, Ethel C. Tinkham; Dept. 130-0, H W. Carrell; Dept. 149-2, J. P. Montijo; Dept. 403-1, R. H. Struck; Dept. 562-0, R. A. Taylor; Dept. 576-3, C. D. Wirt; Dept. 733-0, Gladys E. Millsap; Dept. 835-5, R. G. Graves.

Fifteen-year: Dept. 001-0, Natalia R. Garcia; Dept. 015-0, T. C. Eastin, E. W. Woods; Dept. 019-0, Alejandro Duplat; Dept. 041-0, S. L. Sorcinelli; Dept. 071-0, R. J. Moore; Dept. 101-5, Viola D. Burch; Dept. 132-1, P. R. Conkle; Dept. 210-4, F. H. Harding; Dept. 223-0, Martha S. Lumsden; Dept. 250, H. N. Cannon, C. F. Gourley; Dept. 251-1, F. W. Greel Jr.

Dept. 300-0, J. J. Zathan; Dept. 420, G. A. Lowin, M. A. West; Dept. 451-0, G. G. Guthrie; Dept. 522-6, J. J. Herring; Dept. 562-2, J. H. Dowdy; Dept. 576-1, S. M. Kozakowski; Dept. 584-1, W. H. Whitley; Dept. 585-2, J. W. Kuczwara; Dept. 664-0, G. S. McHenry; Dept. 758-0, R. E. Sweitzer; Dept. 816-4, L. W. Klingenmeier; Dept. 818-2, M. H. Whitney; Dept. 835-6, R. D. Raines Jr.; Dept. 838-3, G. J. Needles; Dept. 953-2, C. F. Smith; Dept. 962-3, D. P. Miller; Dept. 972-0, M. G. Fain.

Ten-year: Dept. 015-0, J. B. Poulin; Dept. 101-0, Pearle O. Faulkner; Dept. 113-0, D. W. Chase; Dept. 123-0, Ruby Reid; Dept. 143-6, C L. Willey; Dept. 210-1, W. J. Robinson; Dept. 226-0, J. R. Stevens; Dept. 250, G. C. Bagwell, G. R. Corelia; Dept. 454-0, J. A. Nagi; Dept. 511-4, T. L. Kienholz; Dept. 543-2, K. L. Giddings; Dept. 551-4, K. J. Downing; Dept. 572-4, G. W. Oliver; Dept. 574-3, R. V. Minutello; Dept. 578-4, D. J. Ferris; Dept. 581-1, Frank Leinhaupel; Dept. 589-3, E. B. Gardner.

Dept. 591-0, R. I. Peterson, P. Z. Rider; Dept. 642-1, A. D. Jorgensen; Dept. 654-0, H. E. Pietsch; Dept. 715-0, W. F. Danvers, R. E. Olson; Dept. 733-0, Margaret C. Steirer; Dept. 780-2, D. A. Seavello; Dept. 817-0, J. T. Staples; Dept. 818-1, Vivian M. Bishop, W. E. Johnson; Dept. 835, Gus Demopoulos, V. M. Garrison; Dept. 839-2, J. J. Janssen; Dept. 952-1, P. J. Swanson; Dept. 962, R. H. Broomfield, E. J. Hujsak; Dept. 963, Milan Radovich, R. M. Torres; Dept. 964-3, Joseph Gnas; Dept. 973-1, G. G. Christ; Dept. 974-4, S. B. Miller; Dept. 988-6, Genaro Velasquez.

STROMBERG-CARLSON

Fifteen-year: Dept. 8601, I. L. Kemper.

Awards

CONVAIR

Employe Suggestion awards approved for the week ending Nov. 17.

Dept. 001, H. G. Mondy; Dept. 015, V. J. Rocco (two awards); Dept. 016, B. C. Davis; Dept. 019, D. B. Bryson; Dept. 024, R. E. Handley; Dept. 041, R. E. Pendarvis; Dept. 123, D. R. Pierce (two awards), R. Rush; Dept. 125, J. L. Martin; Dept. 126, B. S. Brockett, D Maltese; Dept. 143, F. A. Baugh (first installment), H. A. Jackson.

Dept. 194, A. M. Hamm; Dept. 250, G. S. Brooks, R. F. Mutsch; Dept. 403, D. C. Basore (first installment); Dept. 490, G. D. Peddie; Dept. 641, H. T. Murphy; Dept. 661, D. G. Wilson; Dept. 681, D. F. Waring Jr. (final installment); Dept 715, W. F. Danvers (final installment); Dept. 732, J. A. Pinson; Dept. 759, G. D. Lundquist (four awards); Dept. 764, C. W. Neal, W. H. Weatherby.

Dept. 780, J. E. Sandiford Jr.; Dept. 832, B. A. Shepard; Dept. 838, R. H. Feeley, G. S. Maese; Dept. 957, M. L. Elliston; Dept. 963, W. L. Rix; Dept. 973, J. W. Barham; Dept. 988, J. M. Stabile.

Cost Improvement Proposals approved for the same period.

Dept. 019, L. W. Stamper.
Dept. 147, F. O. Clark.
Dept. 847, J. D. Barbieux.

Invention Disclosures

CONVAIR

BAYER — M. C., Dept. 551-4. The V-R-E-C Law and Traffic Violation Monitor.

GETTY—R. C., Dept. 584-2. Adapter for High Thermal Resistance in Structural Members.

HARBISON—R. C., Dept. 511-1, and A. D. MATTIA, Dept. 581-2. Thrust Reverser - Fan Exhaust-Pivoting Blocker Vane - GE 1/6 Engine.

KACHIGAN—K., Dept. 966, and F. X. MARSHALL, Dept. 964. Automatic Turn-off Reminder for Vehicle Electrical Accessories.

MOFFAT—D. W., Dept. 542-0. Time Domain to Frequency Domain Converter.

Deaths

CONVAIR

BLACKETT—Mabel M. Dept., 850-1. Died suddenly Nov. 19. Survived by a sister, Mrs. Ida Uselton, Ft. Smith, Ark.

FREITAS—J. T., Dept. 761-0. Died Nov. 21. Survived by wife, Charlotte.

General Dynamics News

Published by General Dynamics Corporation, One Rockefeller Plaza, New York, N.Y. 10020.

Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff. Lindbergh Field, ext. 491. Bldg. 14 auditorium. Kearny Mesa, ext. 1931. Bldg. 17, Room 3, Jan. 3, 1966, 8 a.m.

PROFESSIONAL/TECHNICAL

F&CD-IR—Hal Rubin, Lindbergh Field, ext. 491. Call for future schedule.

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks, Kearny Mesa coordinator, Harry Miller, ext. 1931; Lindbergh Field coordinator, Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training) — Eight hours per day, 26 weeks, Bldg. 3, Lindbergh Field coordinator, Wayne Turner, ext. 491.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly 7 a.m.-3:45 p.m.; Room 10, Bldg. 17, Kearny Mesa.

DIGITAL TECHNIQUES—Send AVO to Dick Forrest, Zone 130-30. Give name, department, extension, and if you are able to attend after hours. You will be called regarding confirmation of registration and date for classes.

AFTER HOURS TRAINING IN-PLANT

BLUEPRINT READING—Bill Sherman, ext. 491, Lindbergh Field. Oct. 25 to Jan. 26. Monday and Wednesday, 3:45-6:15 p.m., Bldg. 14, Room 5.

CITY COLLEGE SPRING COURSES—Send AVO to Dick Forrest, Zone 130-30, Kearny Mesa. Give name, department, extension, courses interested in. Classes will be held one night a week, usually 5-8 p.m.

OUT-OF-PLANT

SAN DIEGO STATE COLLEGE—Deadline for admission to spring semester is Dec. 15. Catalogues will be available at Convair educational services offices after Dec. 10.

Personals

CONVAIR

I wish to convey my heartiest thanks to the Convair Management Club for providing me with a television set during my continued stay at Sharp's Hospital as a result of a severe heart attack. It certainly filled in the hours of otherwise loneliness. And, to the hundreds of employes of our management team a tremendous thank you for all the cards of cheer and flowers. It is difficult to describe how much this all means.

Jim Cooper, Dept. 130-8.

* * *

I would like to thank all of my coworkers for the very thoughtful gift and get-well messages during my illness.

Norman L. Currier, Dept. 250-5.

* * *

We will always remember with deep gratitude the kind expressions of sympathy extended by Convair friends at the loss of our husband and father, Joseph T. Freitas of Dept. 761-0.

Mrs. Charlotte Freitas and children.

* * *

The flowers and sympathy received at the death of my husband, Kenneth L. Gardner, were deeply appreciated.

Louise Gardner and family.

Retirements

CONVAIR

DURALL — George B., Dept. 170-2. Seniority date Sept. 13, 1950, retired Nov. 5.

HUFNAGEL — Leo C., Dept. 452-0. Seniority date June 11, 1956, retired Nov. 15.

MESSAMORE—Everett J., Dept. 759-0 Seniority date Jan. 10, 1956, retired Oct. 7.

STURDEVANT—Harold G., Dept. 3-1. Seniority date Dec. 29, 1941, retired Nov. 19.

SWINSON — Walter H., Dept. 362-4. Seniority date Jan. 4, 1960, retired Oct. 3.

TAYLOR—Frank G., Dept. 216-0. Seniority date June 11, 1942, retired June 14, 1964.

Delegation Inspects New Convair 600

(Continued from Page 1)

tensive presentations directed by R. R. Hoover, Convair 600 program manager, and A. J. Savard, assistant program manager-technical. Some 15 Convair men participated in the briefings.

Anthony Oldfield and John Waite, Rolls-Royce representatives from Montreal, Canada, answered questions on the Rolls-Royce engine.

George Mitchell, chief of market analysis in commercial sales, and G. D. Clark of commercial sales and contracts, coordinated details of the visit. A side highlight for the three Linjeflyg visitors was their first Thanksgiving Day turkey dinner at Mitchell's home.

Coins From Pool Will Go to Needy

(Continued from Page 1)

Cabrillo discovered the West Coast of the United States.

During the past decade, the Pala Indians have helped to restore the old mission at Pala, erecting new adobe walls, replacing roof tiles and hewing timbers for rafters, door frames and flooring.

William Lux, a representative of the department, said the Indians have little and their needs are apparent.

Convair employes wishing to provide food, clothing or toys may leave them in a collection box near the flexowriter room on the fourth floor of Bldg. 3 at Kearny Mesa.

Peterson New Vp Engineering

(Continued from Page 1)

G. Daly, manufacturing operations.

Charles S. Ames, who has been vice president and program director-space launch vehicles, has been named vice president-military space programs.

Peterson originally joined the Convair division in 1941 and worked as a stress analyst on aircraft programs until 1943. For the next eight years, he was a dynamics engineer and dynamics group engineer working on advance aircraft and early missile programs such as the MX 774, Lark, Terrier and Atlas.

He joined Pomona division in 1952 and for the following eight years held responsible engineering duties, including positions as chief systems design engineer, chief of technical services and assistant chief engineer. He was named manager of the Army weapon systems department at that division in 1960 and was responsible for the Mauler and Redeye missile programs.

Peterson rejoined Convair division in 1961 as vice president-research and engineering and returned to the Pomona division in February, 1962, as vice president-new projects. He was named vice president-research and engineering there in January, 1963.

Peterson is a graduate of the University of Minnesota with a bachelor's degree in aeronautical engineering. He has done graduate work at the University of Minnesota and at UCLA. He is a member of the American Institute of Aeronautics and Astronautics, Association of the United States Army, Navy League and Institute of Electrical and Electronic Engineers.

Phone Switchboards To Close Weekends

Convair people have two four-day weekends in store over the Christmas and New Year's holidays.

Plants will be closed Dec. 23 through Dec. 26 for Christmas and Dec. 30 through Jan. 2 for New Year's.

All telephone switchboards will be closed during the two long weekends.

Employes required to work will be notified by their supervisors. Authorized employes will enter and leave only through Gate 1 at Kearny Mesa plant; No. 1 Overpass and Gate 5 at Lindbergh Field plant; Gate 23 at AF Plant 19; and main gate at Sycamore Test Site.

★ ★ ★

Electronics division employes at San Diego will observe the same holidays as those at Convair: Dec. 23-24 before Christmas, and Dec. 30-31 at New Year's.

★ ★ ★

Stromberg-Carlson people will have Friday and Monday off over each weekend—Dec. 24 and 27 for the Christmas holidays, and Dec. 31 and Jan. 3 for New Year's.

1963 Fords Offered At Surplus Sale

Six 1963-model surplus vehicles will be sold next week by Convair on competitive bids. Three are Ford Galaxie sedans and three are Ford station wagons.

Bid forms are available in the material sales offices at Kearny Mesa and Lindbergh Field. A 20 per cent bid deposit will be required with the balance to be paid within five days after notification of award. The autos will be delivered 15 days after final payment.

The bids will be opened at 1:30 p.m. Dec. 16 in the office of R. H. Lange, supervisor of material disposition and sales, at Kearny Mesa.

Further information can be obtained by calling Lange at ext. 3640 or R. L. Eastberg at ext. 1873 at Kearny Mesa or Vern Jennewein at ext. 754 at Lindbergh Field.



FULL COMMITTEE — Members of new Convair Employes' Con-Trib-Club Committee, left to right, are Dean Strange, Richard Fitzgerald, Ernie Larsen, L. E. Wills, J. R. King, Jack Benedict, Floyd Allen, Howard French, Mary Martin, James K. Field and W. J. Dawsey.

United Community Services Voted $225,000 by Con-Trib

Members of the Convair Employes' Con-Trib-Club Committee in their meeting Nov. 24 voted to give $225,000 to United Community Services of San Diego County with payment to be made in quarterly installments.

The committee also, upon recommendation of the Vandenberg AFB employes' advisory committee, granted $10,000 to the United Fund of Northern Santa Barbara County, $4,000 of which will be designated for the Lompoc Valley United Fund.

Upon recommendation of employes at the White Sands Missile Range, $350 was authorized for the United Fund of El Paso, the Otero County United Fund and the Dona Ana United Fund.

A check for $2,500 was presented at the meeting to Brig. Howard Sloan, city commander of the Salvation Army in San Diego, to be used in that organization's Christmas programs for needy families.

A check for $252 will be sent to the Brevard Association for Retarded Children, at request of the Florida employes' advisory committee, to be used toward purchase of a bus.

Vauclain Home in San Diego was granted $340 for magazine subscriptions for patients.

James K. Field, chief of employe services, is chairman of the Con-Trib-Club committee. W. J. Dawsey has been elected vice-chairman, Mary Martin, secretary, and Dean D. Strange, treasurer. Field, Dawsey and Mrs. Martin are company representatives and Strange represents salaried EAA employes.

Other members of the committee are Floyd E. Allen, representing hourly EAA employes; Jack R. Benedict, representing management; Richard Fitzgerald and Howard French, representing the IAM; J. R. King, representing the Management Club; Ernie E. Larsen, representing the IBEW; and L. E. Wills, representing the UWA.

Bicycle Club Plans Trip to Coronado

Convair's newly-organized Bicycle Club has been invited to join the San Diego Hostel Group on a cycle trip to Coronado Island this coming Saturday (Dec. 11).

Riders will meet at 7:45 a.m. in the parking lot of the Midway Drive-in Theatre and proceed from there through Old Town to the Coronado ferry.

The return trip will end at the Chuck Wagon restaurant on Midway Drive for a late morning brunch.

Although the trip is planned primarily for adults, children may take part if accompanied by an adult.

MEXICAN TOUR MEET WILL BE HELD DEC. 15

Final meeting for GD people signed for the "Christmas in Mexico" tour will be Dec. 15, 7:15 p.m., Convair executive dining room, Pacific Hwy. There is still room for a few more late-comers. Call Jim Hardison, 276-5805, immediately. Tour is Dec. 18-Jan. 2.

System Reliability Stressed in Talks

(Continued from Page 1)

can fail and how to assess criticality of each failure mode on the overall system.

The maintainability and system safety session showed how knowledge of failure modes, effects and criticalities can be applied to establish optimum maintenance and system safety policies. Stressed was the fact that failures requiring maintenance must be avoided during pre-launch and launch countdown in order to meet "launch window" requirements.

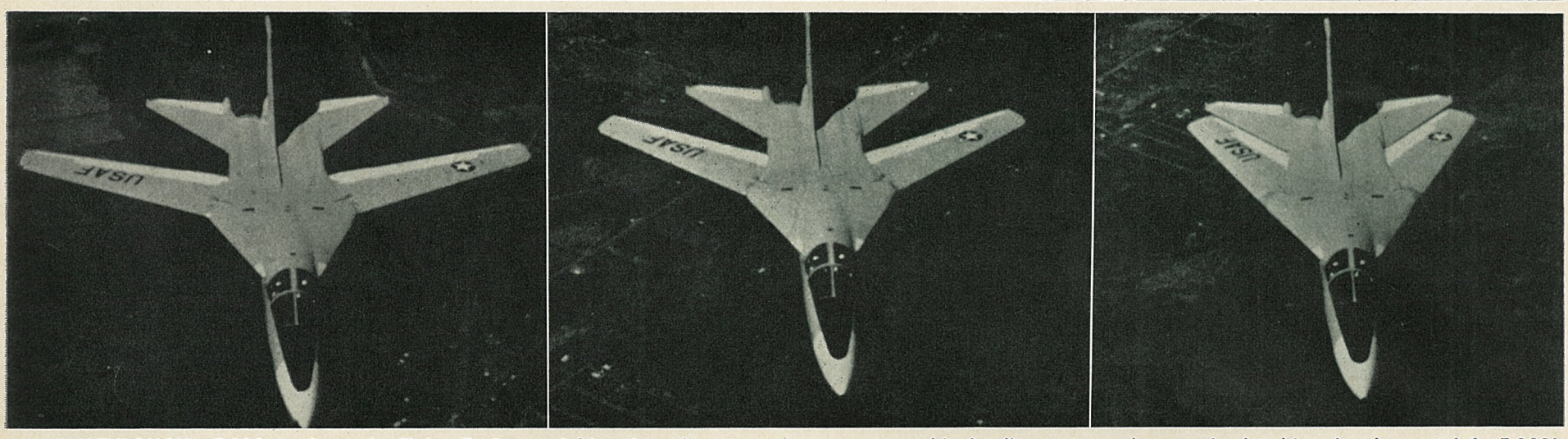
If failures do occur during this time, Ruhe indicated, equipment must be designed to permit restoration of the system to operation in minimum time.

Applegate, who gave a brief talk at one of the seminars, said fixed price cost incentive contracts "require us to be more reliability conscious" and that system success depends on every link in the chain doing its job—whether the link be hardware or human. Launch failures, he said, must be prevented at the drawing board as well as in the shop.

The seminars were sponsored jointly by product effectiveness, Dept. 145, and educational services, Dept. 130-3.



SEMINAR SPEAKERS — Discussing material to be presented at three-hour seminars for SLV engineers at Kearny Mesa are, left to right, Wally Seaforth, Charles Wilson and Richard Ruhe.



BREAK-THROUGH—F-111 is shown in flight, flexing variable wings from outstretched to tucked back for high speed flight. Fort Worth division's president, Frank Davis, regards variable sweep wing as aeronautical break-through as important as were retractable landing gear and pressurized cabins. In photo at left, F-111's wings are at 26 degrees (cruise setting) and at right are 72.5 degrees, full sweep. F-111s will go into Category II testing soon.

Test of Escape System For Apollo Scheduled

A Convair-built Little Joe II launch vehicle is scheduled to boost a production-type Apollo spacecraft in a test of the escape system at White Sands Missile Range, N. M., this week, if present plans are carried out.

The sub-orbital mission is being conducted by NASA's Manned Spacecraft Center, Houston, Texas, as fourth in a series to qualify the Apollo launch escape subsystem.

The test will simulate a power-on tumbling abort during the launch phase of a manned Apollo flight to shoot astronauts free of a moon rocket in case of a malfunction. In the test, the Apollo spacecraft, which consists of command and service modules and the launch escape subsystem, will power itself away from the launch vehicle and will return to earth by parachutes.

For the test, Little Joe II, the most powerful U. S. solid propellant rocket, will use only a portion of its rated thrust capability. It will be powered by four Algol solid propellant motors, built by Aerojet General Corp., each delivering an average vacuum thrust of 108,500 pounds, and five Recruit solid propellant booster motors, built by Thiokol Chemical Corp. Each Recruit motor delivers 37,500 lbs. thrust for 1.5 seconds.

Little Joe II will carry 15,000 pounds of steel plates as extra ballast to restrain its power within mission requirements. The booster will be launched at an 84-degree angle, then initiate a pitch-up maneuver causing a "tilt" and signaling abort condition.

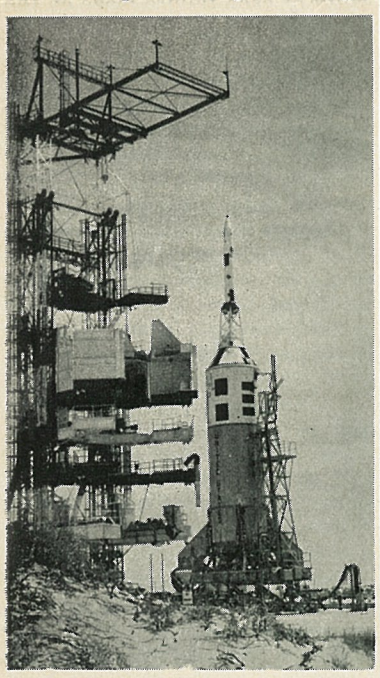
During some 80 seconds of powered flight, Little Joe II will drive the Apollo spacecraft to an altitude of about 62,000 feet and to a velocity of about 1,600 miles per hour.

Then the launch escape subsystem will propel the spacecraft away from the launch vehicle and power it to a peak altitude of about 73,000 feet.

The Apollo module will return to earth by parachutes about 6½ minutes after lift-off and about 20 miles uprange from the launching site.

The Apollo spacecraft was built for NASA by the Space and Information Systems Division of North American Aviation, Inc.

At White Sands to witness the current launch are a number of Convair officials, including J. B. Hurt, Little Joe II program manager.

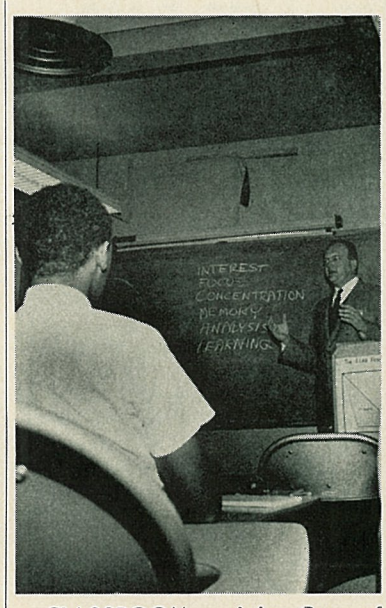


GETTING SET — Little Joe II is readied for launch.

Convalescent Center Using Dial-X System

Stromberg-Carlson Dial-X intercommunication and public address systems are being used at Mount Vernon Convalescent Center which opened last month on Kearny Mesa in San Diego.

Gerald Porter, Mount Vernon business manager, said officials of the 300-bed facility considered numerous communications systems and decided that Dial-X would best fit the Center's need. Installation was done by San Diego Sound Co., Inc.



CLASSROOM — John Corr of Pomona division is shown conducting class for Stromberg-Carlson personnel.

Job Instruction Sessions Held

Three series of meetings on job instruction were held last month for foremen, supervisors and other employes who assist in training newly hired or transferred men and women at Stromberg-Carlson.

Such subjects as learning theory—including motivation, learning sequence, the laws of learning and the role of competition—lesson preparation and the physical aspects of instruction were covered.

The material was presented by John Corr, training consultant at Pomona division.

Corr, who has an extensive background in industrial training, psychology and teaching, has been with General Dynamics since 1954. Immediately before his employment there, he performed special graduate studies in industrial management and psychology at Claremont College. In addition to his training responsibilities at Pomona, Corr has taught at Mt. San Antonio College since 1954.

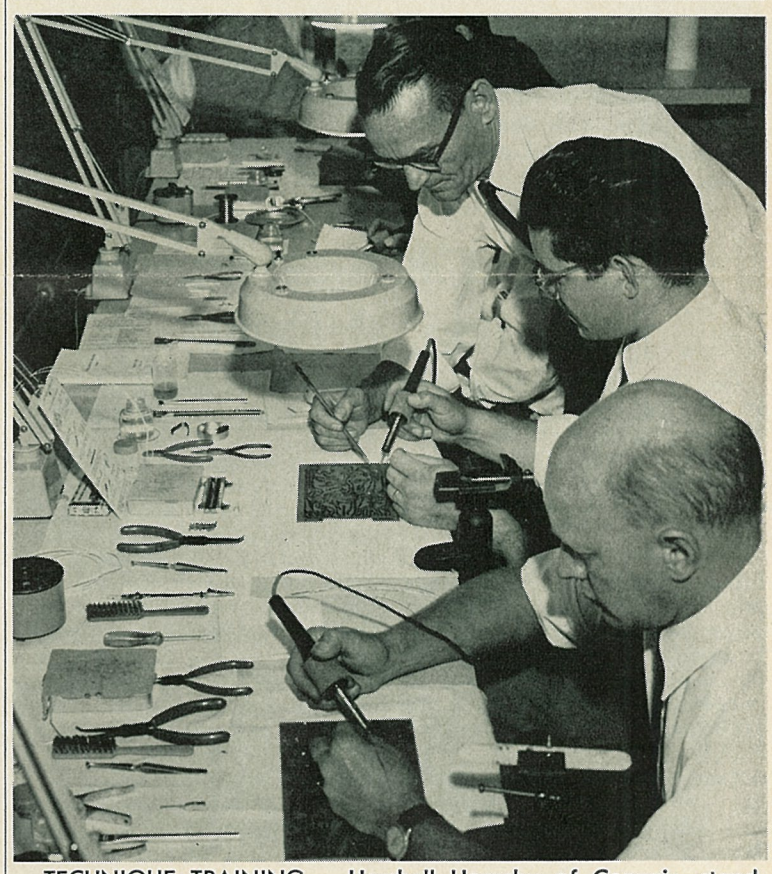
Germany Joins in Canadair's Drone Development Program

The Federal Republic of Germany will cooperate with Canada and Britain in development of a Canadian-designed airborne surveillance drone system, the Canadian Government announced last month.

The system, being developed by Canadair Limited, has been a joint Canadian and British project for the past two years. As a partner, the Federal Republic of Germany will pay one-third of the total cost of the program.

Initially known as the CL-89, the wingless drone is now designated AN/USD-501. It is designed to provide tactical information in forward battle areas. Propelled by a jet engine, which provides speeds close to supersonic, it is missile-shaped and approximately eight feet long.

It is launched from a mobile launcher and utilizes a booster to gain altitude and operational speed rapidly. The drone follows a pre-selected course and can accurately photograph hostile terrain and military equipment with its camera before returning to base. At this point, the engine cuts off, and a parachute floats the drone to ground for re-use later.



TECHNIQUE TRAINING — Hershell Hornsby of Convair, standing, looks on as Canadair employes use newly-learned soldering techniques in soldering connections on a printed circuit board.

Convair QC Engineer Teaches Soldering Course For Canadair

Hershell Hornsby, Convair quality control engineer, recently spent 3½ weeks in Montreal assisting Canadair Ltd. personnel to develop higher skills in the art of soldering and in establishing a soldering training and certification program.

Hornsby assisted with procurement and installation of new soldering equipment and served as instructor for two 10-man classes for 40 hours teaching new techniques.

Gil Gardner, superintendent of quality control for Canadair, and Guy Baribeau, a Canadair soldering instructor, also visited Convair's Kearny Mesa plant last month to observe.

Canadair plans to maintain a continuous soldering training and evaluation program.

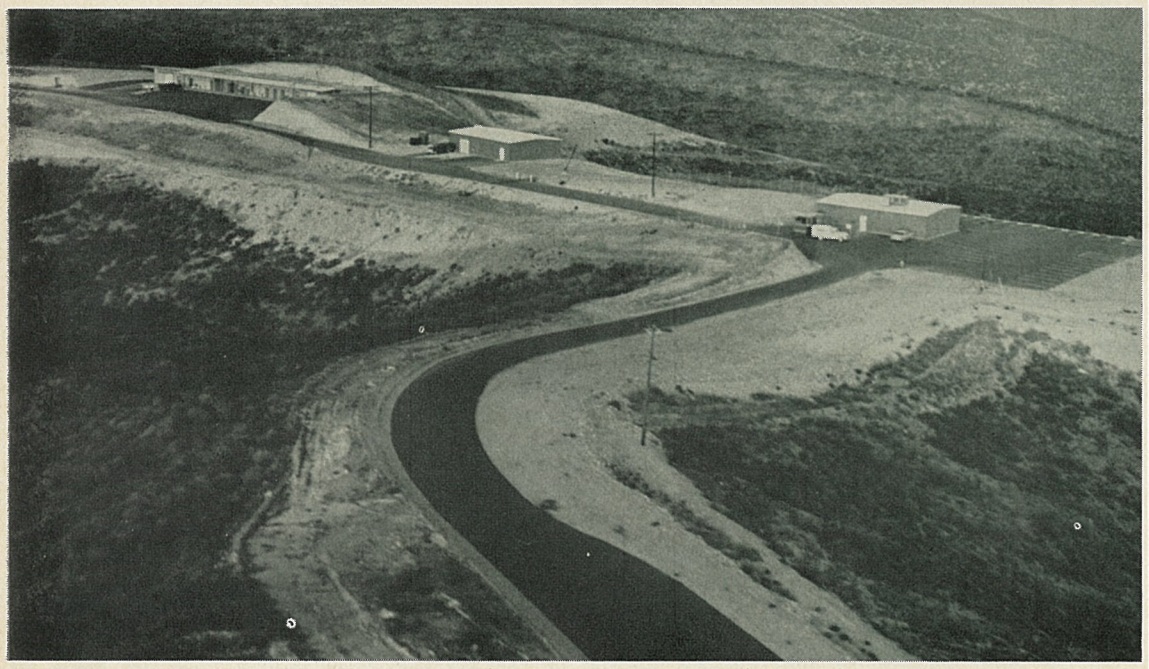
P. M. Macdonald, Canadair employe services manager, in a letter to W. W. Wilimek, Convair assistant process control supervisor, expressed appreciation for Hornsby's assistance and commended him for doing an "outstanding job."

Wilimek said the Convair assistance is an example of how General Dynamics' interdivisional cooperation can improve reliability control and quality assurance.

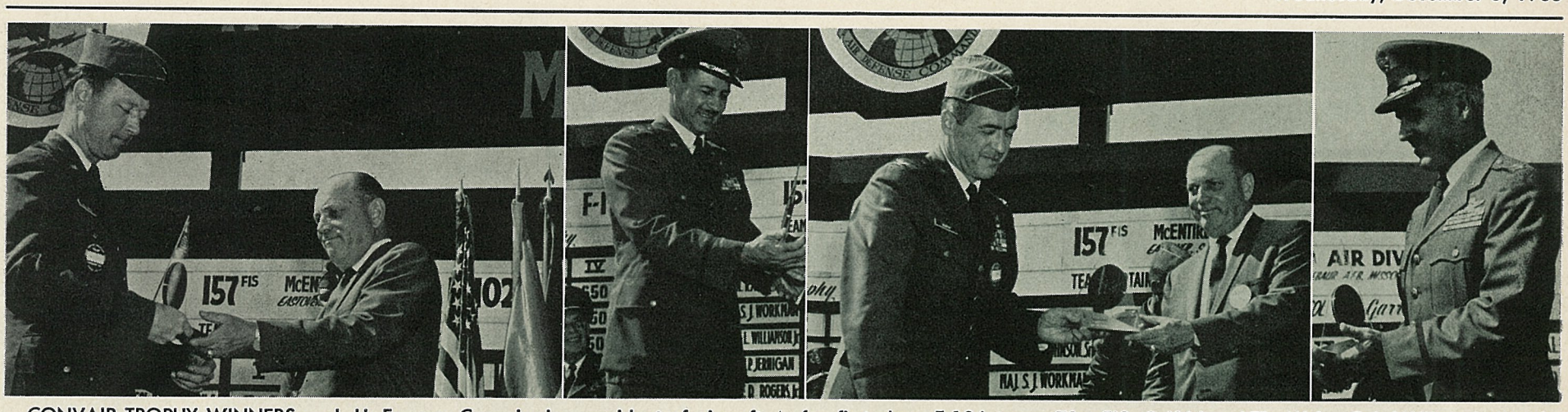
"Attention to small detail is extremely important to space-age soldering applications," Hornsby said.

"If one extra drop of solder was used on every soldered connection in a space launch vehicle, the extra weight could equal the flight payload," he said.

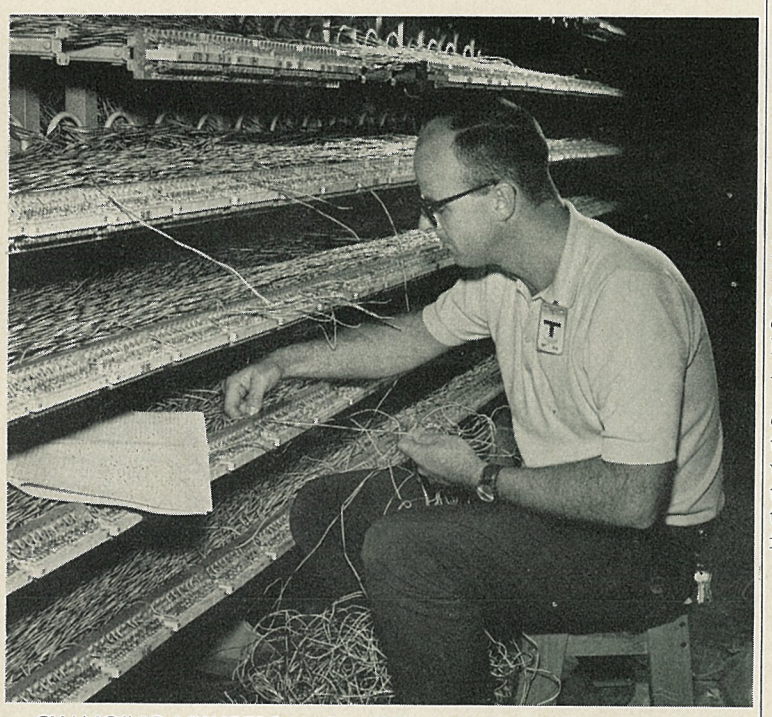
Canadair will use the advanced soldering techniques in developing a drone that will photograph hostile terrain and enemy military equipment over a pre-selected course and return to its starting point. The Pomona division is assisting with testing of the drone in Arizona.



REDEYE FACILITY — Recent aerial photo shows Pomona division's Redeye facility at Sycamore Canyon north of San Diego. At left is final assembly and administration buliding is at right. Redeye is shoulder-fired missile for use aganst low-flying aircraft.



CONVAIR TROPHY WINNERS — J. H. Famme, Convair vice president of aircraft programs, presents Convair trophies to top teams and runners up in F-102/106 categories of 1965 William Tell world wide weapons meet at Tyndall AFB, Fla. Capt. Erwin P. Wallaker, leader of first-place F-102 team accepts trophy for 32nd FIS, USAFE, Amsterdam, The Netherlands; Lt. Col. Glendon K. Dunaway receives trophy for first-place F-106 team, 71st FIS, Selfridge AFB, Mich.; Col. William J. Murphy Jr. of 59th FIS, Goose Air Base, Labrador, receives runner-up trophy in F-102 category; Col. Hubert L. Williams of 5th FIS, Minot AFB, N. Dak., receives runner-up trophy for second-place F-106 team. Annual meet is sponsored by Air Defense Command. — USAF photos.



CHANGING NUMBERS — Ray "Mac" McDonald, PBX repairman, makes changes in telephone lines at Convair's Kearny Mesa plant where 25 per cent of phone lines are being eliminated and 1,000 numbers are being changed.

New Extension Numbers Assigned 1400 Phone Lines at Plants

One thousand telephone lines at the Kearny Mesa plant and 400 at Lindbergh Field recently have been reassigned new numbers while at the same time 25 per cent of the lines have been eliminated as non-essential.

Douglas Zink, supervisor of office services, said a new telephone directory reflecting reassignments will be off the press in January. Meanwhile, any question about the newly assigned numbers can be referred to the "Information" operator, ext. 1421.

Larry Piro, Pacific Telephone Co. communications consultant and resident engineer at Kearny Mesa, said the extensions now in use at Kearny Mesa are below 3700 and at Lindbergh Field are below 1800. Extension numbers from 3700 to 4600 at Kearny Mesa have been eliminated and numbers from 1800 through 2100 at Lindbergh Field have been removed.

Thirty telephone company installers completed the line changes Monday after working on the project daily, including weekends, since Oct. 29. The company routinely has 20 installers, four marketing representatives and one foreman assigned to Convair facilities.

Zink said work on the lines was done as efficiently as possible in order to create the least inconvenience.

"There were some cases in which lines were disconnected for a short time without the individual being notified," he said. "For this we express apologies. We appreciate the cooperation received from all concerned during the time the changes were being made."

Zink and Piro said they would like to remind Convair employes of the following "telephone tips":

1. In making long distance calls, which should be limited to three minutes, consideration should always be given to the time in other time zones and area codes. An area code and time zone map can be found in the front of the Convair phone book.

2. Personnel expecting calls in the plant after 6 p.m. should be sure the caller will use the proper night number. The switchboard is closed after 6 and calls coming in on 277-8900 are misdirected. Night numbers are listed in the emergency directory distributed to key personnel.

3. Individuals with listings in the plant directory who change office locations and extension numbers should notify the directory operator, ext. 1026, of the change. An up-to-date tab run of telephone numbers for use by operators is prepared weekly.

4. Service call numbers can be found readily inside the back cover of the plant phone book.

Min Monji Winner In CRA Table Tennis

Min Monji (Dept. 420-7) emerged winner of the CRA table tennis tournament held Nov. 20 at the CRA Clubhouse. He won over Bill Conner (Dept. 403-1) who defeated Carl Thornton (Dept. 834-1) in an extra playoff match.

Ping-pong tables have been set up in the CRA game room next to the CRA train station. Anyone wishing to play can obtain a key at the CRA desk in the Clubhouse.

Seminars Dropped Due to Holidays

Technical seminars sponsored by Electronics division-SD will be suspended the rest of this month due to the holidays.

They will be resumed early next year with the first on Jan. 8 in the Bldg. 5 engineering auditorium, Lindbergh Field plant. They will continue each Wednesday from 5:05 to 6 p.m.

32nd FIS F-102s Score Highest In William Tell

F-102s from the 32nd FIS, The Netherlands, and F-106s of 71st FIS, Selfridge AFB, Mich., scored highest in their respective categories at last month's William Tell 1965 firings at Tyndall AFB, Fla.

The crack teams outpointed all other F-102 and F-106 teams entered in the USAF world-wide weapons meet held annually by the Air Defense Command to pick the best fighter squadrons in the free world.

J. H. Famme, Convair vice president of aircraft programs, presented Convair trophies to first and second-place winners in the F-102 and F-106 categories.

Altogether 16 teams from ADC bases in this country, Canada, Europe, and the Air National Guard were chosen to compete in four classifications. Besides the Convair-built F-102s and F-106s, F-101s and F-104s pursued the Ryan-built Firebee, remote-controlled target.

Other F-102 squadrons competing, besides the top-standing 32nd FIS, were 59th FIS, Goose Air Base, Labrador; 326th FIS, Richards-Gebaur AFB, Mo.; 64th FIS, Paine Field, Wash., 157th FIS, McEntire ANG Base, S.C.

F-106 squadrons in order of their final standings were 71st FIS; 5th FIS; Minot AFB, N. Dak.; 456th FIS, Castle AFB, Calif.; 318th FIS, McChord AFB, Wash.

Other Convair men on hand to watch the competition were R. E. Sommers, J. J. Wheeler, B. F. Ferguson, C. S. Brandt, and John L. Tezak Jr., field service representative at Tyndall AFB.

Return of Library Material Requested

All people at Lindbergh Field plant who have library material from the Bldg. 5 engineering library out on loan are asked to return it before Dec. 20.

The Lindbergh Field library will be consolidated with the engineering library at Kearny Mesa effective Dec. 27.

After that date the Specifications and Technical Orders File, located in Bldg. 51, third floor, area J, will be the Lindbergh Field library station for pick-up and return of material. Extension is 1480.

For information on library service to employes call Lou Canter, chief librarian, ext. 1073, Kearny Mesa.

Travel Reservations Moved to LF Plant

Convair travel reservations office was moved last week to Lindbergh Field plant from AF Plant 19.

It is now located in Bldg. 4 in the area formerly occupied by the cockpit procedures trainers used by customer service. Entrance is from the main north-south aisle at Col. X-10. Phone extension remains 1426, through the Lindbergh Field switchboard.

'Frolic' Ticket Sales Started

Management Club boosters now have tickets on sale for "Holiday Frolic," the club's annual Christmas dinner-dance, to be held Dec. 18 in the Convention Center auditorium.

Tickets are $3.50 per person for club members and guests and $4 for others. Social hour will be at 7 p.m. with dinner at 8 and dancing from 9 to 1.

Music for dancing will be provided by the Buster Carlson orchestra, with Barbara Howell as vocalist. Strolling musicians also will entertain during the social hour and dinner.

El Cortez Fashion Quarter will have seven models to display winter fashions.

Four $50 gift certificates and a surprise gift valued at $300 will be given as door prizes to ladies attending. Gift certificates for men valued at $50 and $25 also will be awarded.

Controller's department is sponsoring. Tables are to be decorated with gala holiday decor.

Rockhounds Plan Christmas Party

Convair Rockhounds will hold a Christmas party for members tomorrow (Dec. 9) at Gillespie Field Clubhouse. Business meeting will start at 7 p.m., followed by gift exchange, accordion music, cake and ice cream, and candy for the children.

Two field trips will be held this month. This weekend (Dec. 11-12) Rockhounds will go to Horse Canyon, near Mojave, and over the year-end holidays (Dec. 30-Jan. 1) to Wiley Well area.

Coineers Will Hold Christmas Meeting

Coineers will hold their "Merry Christmas" meeting next Wednesday (Dec. 15), 7:30 p.m. in the Convair cafeteria at Lindbergh Field plant.

Members may bring presents for the gift exchange if they wish. Five U. S. 1964 proof sets will be up for grabs in the drawing. Door prize will be a U. S. 1962 proof set and all paid-up club members will have a chance to draw for a turkey. Give-away coin for each person attending will be a BU 1963P U. S. nickel.

SALVAGE YARD OPEN DEC. 18

Lindbergh Field plant salvage yard will be open for employe sales on Saturday, Dec. 18, last sales day of the year. It will not be open during the year-end holiday weekends. The Kearny Mesa salvage yard has discontinued employe sales.

RADIO MEETINGS NOW ON THURSDAY

CRA Radio Club will meet on Thursdays for the next two months, instead of the previous Wednesday meeting nights. Only meeting for this month will be Dec. 16.

Subcontracting Firms Invited To Conference

Convair has mailed invitations for a Small Business Subcontracting Conference Dec. 15 in Beverly Hills to more than 500 small business aerospace and defense subcontracting firms in San Diego County.

The conference, in the Beverly Hilton Hotel, will be sponsored by the Small Business Administration, Department of Defense, NASA, Aerospace Industries Association, Electronic Industries Association, National Security Industrial Association, and Strategic Industries Association.

H. E. Moose, Convair director of material, said the conference has been designed as a fast-moving and authoritative two-way exchange of information.

"Its prime purpose is to discuss ways and means of assuring greater subcontracting opportunities for small business and the criteria necessary to convert such opportunity into contracts," he said.

Several speakers will discuss the government's small business subcontracting programs, quality assurance, scheduling and delivery, cost and price, and the required response of small business to today's needs.

Moose will be one of seven top-level government and industry prime contractor representatives participating on a panel that will answer questions from the floor during a half-hour period at the close of the morning session.

Congressman James Corman will be luncheon speaker, introduced by film star James Stewart, a major general in the Air Force Reserve. Mayor Samuel Yorty of Los Angeles will give a civic welcome.

Russell N. Babcock, chief of Convair's supplier management department, has served on the Southern California Steering Committee of the National Task Force for Small Business Subcontracting Conferences in planning the meeting.

Babcock said prime contractors will have representatives present for individual consultation with attending small businesses after the conference adjourns at 2:30 p.m. Small business administrators representing Convair will be V. O. Olson and Marty Formanek.

Moose, in a letter mailed to the San Diego County small business firms with the conference agenda, said that he hopes there will be a large attendance of San Diego businessmen. "This is one means we have to focus attention on our enthusiasm for attracting additional business into our community," he said.

S-C, ELECTRONICS WIVES MEET DEC. 16

Stromberg-Carlson and Electronics wives will meet Dec. 16 at the University Club for luncheon and gift exchange. Social hour is at noon and luncheon at 1 p.m. Reservations must be made by Dec. 14 with Mrs. R. E. McClure, 278-8041, or Mrs. D. J. Bergstrom, 277-8856.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS has been set ahead a day, to noon Dec. 14, because of the holidays. Call ext. 3322, Kearny Mesa.)

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ADVENTURERS — Meeting Dec. 15, 7:30 p.m., CRA Clubhouse. Movie on Glen Canyon.

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BASKETBALL — Shop league play Wednesday evenings and Saturday mornings, Muni Gym, Balboa Park.

BICYCLE CLUB — Joint trip with SD Hostel Group to Coronado Island this Saturday (Dec. 11). Meet at 7:45 a.m. in Midway Drive-in Theatre parking lot.

BRIDGE — Master point night Dec. 10, 7:30 p.m., CRA Clubhouse. Play every Friday night.

CERAMICS—Instruction Tues., Wed., Thurs. evenings, 7:30-10:30 p.m.; Wed. mornings, 10 a.m.-1 p.m., CRA Clubhouse.

COINEERS—Meeting Dec. 15, 7:30 p.m., Convair executive dining room, Pacific Hwy.

DELTA DIVERS — Meeting tonight (Dec. 8), 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

FISHING CLUB — Christmas party and potluck Dec. 15, 6:30 p.m., CRA Clubhouse, Kearny Mesa.

GUN CLUB — Big game drawing Dec. 16, 7 p.m., Gillespie Field Clubhouse. Entries accepted to day of drawing at all employe services outlets.

ICE SKATING — GD skate night Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

MEXICAN TRIP — Last tour meeting Dec. 15, 7:15 p.m., Convair executive dining room, Pacific Hwy. Call Jim Hardison, 276-5805.

PISTOL CLUB—Turkey shoot Dec. 12, 9:15 a.m., SD Police Pistol Range, Federal Blvd. and Home Ave.

RADIO CLUB — Meeting Thursday (Dec. 16), 7:30 p.m., CRA Clubhouse, Kearny Mesa.

ROAD RUNNERS—Christmas party and installation of officers 7 p.m., Dec. 16, Gillespie Field Clubhouse.

ROCKHOUNDS — Christmas party tomorrow (Dec. 9), 7:30 p.m., Gillespie Field Clubhouse. Business meeting at 7 p.m.

SCULPTURE — Workshop sessions Mondays, 7:30-10:30 p.m., CRA Clubhouse.

SPORTS CAR CLUB — Meeting tonight (Dec. 8), 7:30 p.m., Convair executive dining room, Pacific Hwy.

TENNIS — Final rounds of fall tourney Dec. 11-12, 18-19.

TOASTMISTRESSES — Serra Mesa Toastmistresses meet first and third Mondays, 7:30 p.m., CRA Clubhouse.

WIVES CLUB — Christmas luncheon Dec. 15 at Marine Room, La Jolla Beach & Tennis Club. Call reservations before Dec. 13 to Lou Nordeck, 273-1140, or Sue Cavanagh, 279-1633.

WOMEN'S GOLF — Tourney Dec. 11, 8 a.m., Lakeside golf course.

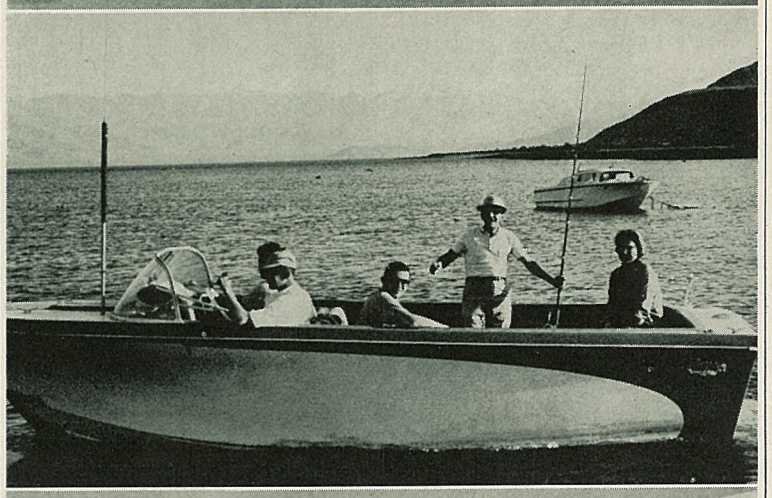
Discount Charger Tickets on Sale

Discount tickets for the Chargers' last home game Dec. 19 went on sale the first of this week at CRA Clubhouse, Kearny Mesa, and employe services outlets at Lindbergh Field, Electronics, and Stromberg-Carlson.

No tickets are sold at Kearny Mesa employe services.

Chargers will meet the Oakland Raiders at 1:30 p.m. in Balboa Stadium. Special price to GD people is $2.50 for regular $3.50 reserved seats.







AIRLIFT — FOR FUN — CRA fliers, anglers, skin divers are snapped at Bahia de los Angeles as they reluctantly prepare for homeward flight after weekend of fishing and fun at Baja California village. Among Convair anglers trying their luck in bay waters are Art Mehner, John Volper, Cathy Shafranske. Cathy caught big one, 35-lb yellowtail (lower shot) but it took husband Joe to hold it up for photo.

More Than a Score Fly To Mexico For Fishing

A couple of dozen Convair people had an adventure far afield when they were airlifted by CRA Bonair Flyers nearly 500 miles from San Diego to Bahia de los Angeles on the east coast of Baja California over a weekend last month.

"It was like being dropped into another world," said Red Taylor, Bonair Flyers operations officer who coordinated the first expedition of its kind for Convair folk.

The tiny fishing village with perhaps less than 100 population is practically inaccessible except by air. In fact, it's a three-day arduous trip by jeep across the peninsula from Ensenada.

Perfect weather and hospitable Mexican hosts combined to make it a memorable couple of days for the Convair travelers and flight instructors from Jim's Air Service who piloted some of the planes.

Members of CRA Fishing Club were overjoyed with the angling, catching all the yellowtail and groupers they could handle, and CRA Delta Divers, along for skin diving, had a heyday. Jorge Zorrilla, Delta Divers' president, captured four fish in four shots in one spearfishing session.

Zorrilla doubled as entertainer, too, delighting the village children with sleight-of-hand tricks and acrobatics.

The less energetic relaxed, swam, hiked along the beach.

All found accommodations clean and comfortable in cabanas maintained for fisherman by "Papa" Antero Diaz. Meals were served family style with turtle steak and tortillas on the menu. After "lights out" at 9 p.m., when all the electricity in the town is turned off, Mexican guitarists and singers tuned up for the visitors.

Five planes transported the group, three flown by Jim's Air pilots, one by Taylor, and Al and Terry Vasques of Electronics flew their own twin-engine Apache.

More such airlifts are planned after the first of the year to skiing resorts and other spots of interest to Convair sportsmen, say Bonair Flyers officers. Glen Hemphill, club president, said the flying group will try to organize such cooperative trips whenever there is enough demand to make them possible.

Howard French Heads CRA Road Runners

Howard French of Convair inspection heads the CRA Road Runners following elections last month, Commissioner Ralph East announced.

Other new officers are Bob Kramer, vice president; Bob Browning (Dept. 838), secretary-treasurer. Judicial board members are Bill Hamilton, also Dept. 838, and Rolland Lathrum, Convair Service Center.

Installation will be at the club's annual Christmas party Dec. 16, 7 p.m., in the Gillespie Field Clubhouse.

A turkey and a ham will be given as door prizes and refreshments served. Each family is asked to bring as many gifts as there are family members. Gifts should be identified as "Mr.," "Mrs.," "boy," or "girl." Teens may bring adult gifts.

On the entertainment committee are Lucille Goodale, Boots Lathrum, and May French.

MENZIE AND THRALL WIN FISHING PRIZES

Fishing Club Commissioner Bob Menzie and Larry Thrall won fishing reels for the best catches during the month of October, announced at the November meeting. Menzie's first-place fish was a 22½-in. steelhead. Thrall reeled in a 30-lb. Chinook salmon.

Sports & Recreation

Convair Wives Meet Dec. 15 For Annual Christmas Party

Convair wives will gather for their annual Christmas luncheon and party next Wednesday (Dec. 15) at the Marine Room, La Jolla Beach and Tennis Club, 2000 Spindrift Drive, La Jolla.

The club executive board is sponsoring the affair which will feature a complete turkey luncheon at 12:30 p.m., preceded by an 11:30 social hour. Reservations must be in by Dec. 13 to either Lou Nordeck, 273-1140, or Sue Cavanagh, 279-1633.

Geneta Dietrich will be guest soloist and lead the group in a community sing with Judy Wallace at the piano. Gifts, between $1.50 and $2 in value, will be exchanged and a drawing held for the turkey door prize.

Another turkey will go to the lady bringing the most attractive centerpiece.

Everyone is urged to bring a contribution of food for the club's Christmas basket now being filled for an adopted family. Canned goods or staples are needed to supplement the turkey which will be provided from club funds.

Jr. Rifleers Team Winners

Four of Convair's Junior Rifleers came home from El Monte Nov. 20 with the California State Class B team championship trophy and four gold medals.

Dave French also took third place expert medal for grand aggregate score and a place as coach on the California State junior prone team.

Richard Ellis placed fourth in the grand aggregate. He also led the team to its victory with a perfect 400 score over the Dewar course of 20 shots at 50 yards and 20 shots at 100 yards.

John Dawson and David Farrelly Jr. filled out the squad, which had a final score of 1,584. This was 12 points higher than the nearest competitor and enabled the team to take third place in the Class A competition.

Ellis and French are rated as experts by the National Rifle Association. Dawson is a sharpshooter and Farrelly is a marksman.

In about a year of competition with Los Angeles area teams on their ranges, the Junior Rifleers have come up from "just competitors" to winners.

Although the team missed the annual junior Thanksgiving turkey shoot at the Convair range at Gillespie Field, Nov. 20, the state championship trophy they won at El Monte made the trip north well worthwhile.

Adventurers To See Conservation Movie

CRA Adventurers will see a conservation film showing the results of the damming of the Colorado River to form Lake Powell in Glen Canyon, Ariz., at the Dec. 15 meeting, 7:30 p.m., CRA Clubhouse.

The New Year's trip (Dec. 30-Jan. 2) will be to Sykes and McDougall craters in Sonora, Mexico, approximately 280 miles from San Diego.

Roads are paved except for 7 miles of dirt road which can be used by conventional cars, said Commissioner Dick Bowen.

A dry camp will be set up in a sagura and ironwood area. A gallon of water per person for each day should be carried. Tourist permits are required. Joe Quijada, 284-0883, will give details.

Anglers Plan Party In CRA Clubhouse

CRA Fishing Club families will hold their annual Christmas party Dec. 15 in CRA Clubhouse, Kearny Mesa.

A buffet potluck will open the evening at 6:30 p.m. Members are asked to supply salads or hot dishes. Cold meat cuts will be furnished by the club. Both adults and children will draw for door prizes.

70 Big Game Bags Entered For Drawing

Big prizes and a big program are in store for all big game hunters who have turned in their "bags" for the CRA Gun Club's annual big game drawing set for next Thursday night, Dec. 16.

The drawing will take place at Gillespie Field Clubhouse at 7 p.m.

Around 70 entries had been received by last week, said Commissioner Jack Swank. There is still time to enter. Although forms should be filled out and turned into any Convair, Stromberg-Carlson, or Electronics employe services outlet by the end of this week, Swank said that late entries will be accepted up to the day of the drawing.

This year's top prize will be a Honda portable generator.

Other lucky ticket holders will have a choice of binoculars, hunter's duffel bag, hunting knife, hatchet, hunting gloves and other sports equipment and accessories, depending upon the number of entries.

Rolla Williams of the San Diego Union will speak and two Canadian hunting films shown.

Everyone is invited to attend.

Shop Basketball Loops Begin Play

Eight hoop teams kicked off Convair's shop league basketball season last week in Balboa Park's Muni Gym with games to be played on Wednesday evenings and Saturday mornings throughout the season.

Last Wednesday saw IBJOB meeting 595; GASP playing Underbrush; and Flight Control vying with Commandos. Comets met the Dragons last Saturday morning.

Tonight (Dec. 8) 595 and Underbrush will start play at 6:50 p.m.; IBJOB vs. Commandos, 7:55 p.m.; and Flight Control vs. Dragons, 9 p.m. GASP and Comets will play at 10 a.m. Saturday (Dec. 11).

CRA Sponsors Day At Caliente Races

CRA is sponsoring a day at the Caliente races for all General Dynamics people Saturday, Jan. 8.

Tickets at $2.50 each go on sale today (Dec. 8) at CRA Clubhouse, employe services outlets at Lindbergh Field plant, Stromberg-Carlson, and Electronics.

Price includes upper-turf seats, a cocktail hour with free margueritas from noon to 1 p.m., and a de luxe buffet luncheon from 1 to 2 p.m.

A special race to honor GD visitors, "CRA Feature Race," will be run as the eighth race of the day.

The affair is open to adults only. Turf club regulations require that ladies wear dresses and men wear coats and ties.

Twin Satellites, Launched by Atlas, Will Carry Organisms into Space

Twin OV1 satellites 4 and 5, each carrying a variety of research experiments, are scheduled for launch into different orbits after being boosted into space Jan. 20 from Vandenberg AFB on the nose of Atlas 72-D.

A side-mounted scientific passenger pod not destined for orbit also is to be carried by the Atlas.

The experiments to be carried in the two Air Force Office of Aerospace Research satellites were outlined in detail for newsmen Dec. 1 in a two-hour briefing in Bldg. 33 at Convair's Kearny Mesa plant.

Among those present for the briefing were Lt. Col. Clyde Northcott, OV1 program manager for OAR headquarters in Los Angeles; Vern Ottem, Convair OV1 program manager; Dr. Calvin H. Ward of the Air Force Systems Command Aerospace Medical Division at Brooks AFB, Tex., and Lou Block of the AF Cambridge Research Lab at Bedford, Mass.

Also speaking were Capt. Dean Ewing of the AF Weapons Laboratory at Kirtland AFB, New Mexico, and Dr. George A. Paulikas of Space Systems Division in Los Angeles, both of whom have experiments being carried by OV1-2 which was sucessfully placed in orbit Oct. 5. Capt. Fred Meurer, public information officer for OAR in Washington, D.C., was moderator.

Although both OV1-4 and 5 will be ejected from the Atlas nose housing simultaneously, OV1-4 will be fired into a 480-nautical-mile orbit while OV1-5 is designed for a 550-nautical-mile orbit. Both will be circular, retrograde (east to west) orbits. The OV1-2 was the first satellite ever placed into retrograde orbit.

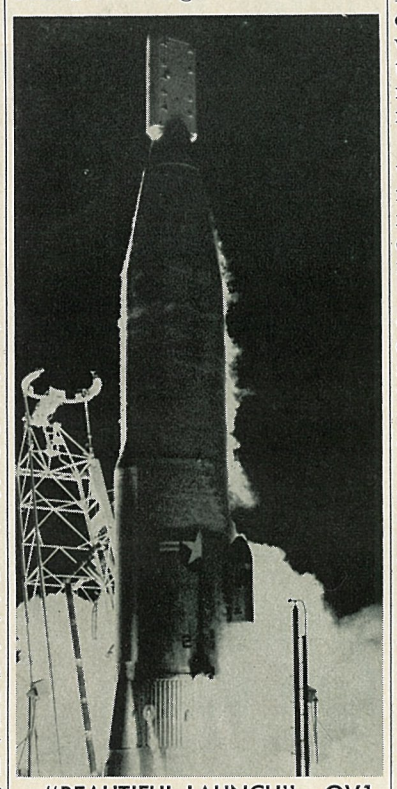
Ward said studies of the effects of prolonged weightlessness for a 30-day period on the single-cell Chlorella algae and the multi-cell duckweed to be carried in the OV1-4 will be a "scientific first." Both Chlorella and duckweed have prolific growth characteristics, permitting study of many generations of the organisms, and have a known tolerance to radiation.

A programmer carried in the satellite will give the two plant species 12 hours of light from three candlepower lamps followed by 12 hours of darkness while temperature is being controlled to within 3/10 of a degree.

Photoelectric cells will measure cell division of the organisms as exchange of carbon dioxide and oxygen occurs through membranes in the experiment container. A recharge of carbon dioxide will be made by radio control after 15 days in orbit.

In another experiment, a series of "wafers" of various types of materials and coatings will be carried in an effort to determine which will best withstand thermal conditions to which space vehicles are subjected.

The OV1-5 will contain an experiment package developed by OAR's Cambridge Research Laboratories to study optical radiation characteristics of the earth, background and space.



"BEAUTIFUL LAUNCH"—OV1-2 rides atop Atlas 34D on way from Vandenberg AFB into "near perfect orbit" on Oct. 5. Launch of OV1-4 and 5 is scheduled for next month.

Block said this will include 18 separate scientific "boxes" housing a family of instruments, including five optical sensors each with multi-operational capabilities. One of the "horizon-looking" radiometers will have 30 different filters for use.

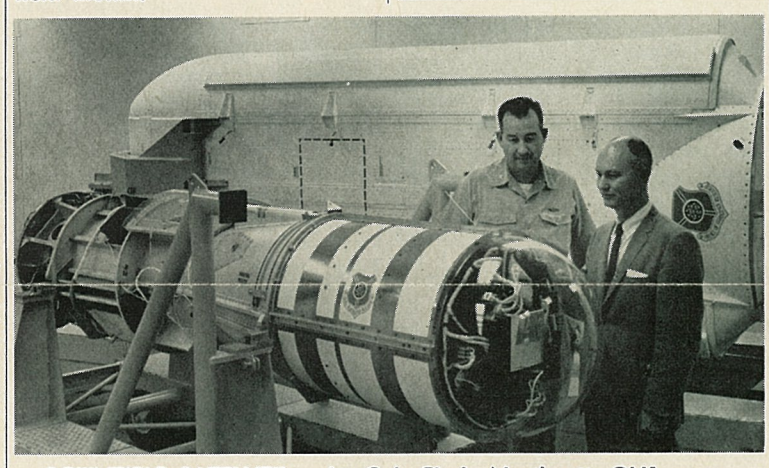
The side-pod on the Atlas also will carry Cambridge experiments for study of electrical structural fields, ionic composition, 50-60 cycle radiation, the Lyman-Alpha night-time glow, etc.

Capt. Ewing said the flight exposure shielding studies being conducted with instruments aboard the OV1-2 to determine the effects of shielding on radiation dose rates has been "beyond our expectations."

Paulikas outlined other experiments being carried out from OV1-2 that he said are "contributing to our understanding of the Van Allen radiation belt."

Northcott outlined development of OAR's aerospace research support program that began in 1960 and has carried more than 300 experiments into space in 24 pods. He said there had been no malfunctions by the OV1-2 or its experiments during the two months in orbit.

The Atlas D launch vehicles now being used in the OV1 launches are missiles that have been retired from SAC inventory and modified for the new mission.



SCIENTIFIC SATELLITE — Lt. Col. Clyde Northcott, OV1 program manager for Air Force, and L. E. Ottem, Convair OV1 project manager, look over one of twin satellites to carry scientific experiments into orbit. Housing, which will be mounted atop Atlas launch vehicle, is in background.

Test Tanks To Be Used in Study Of Resistance to Propellants

The last of 12 cylindrical test tanks built at Convair for the Air Force Systems Command's Rocket Propulsion Laboratory were delivered to Edwards AFB last week for use in a two-year study in determining the resistance of the "as welded" tank material to the corrosive action of storable liquid propellants.

Different propellants such as nitrogen tetroxide and chlorine trifluoride are to be stored in the tanks, which are 18 inches in diameter and 18 inches long. All will be under more than 100 pounds pressure per square inch and will be stored at 85 per cent relative humidity and 85 degrees Fahrenheit.

Six of the tanks were made of two different aluminum alloys, three of stainless steel and three of titanium alloy. Metals used were aluminum alloy 2014-T6, aluminum alloy 6061-T6, stainless steel AM350 SCT and titanium alloy 5AL-2.5Sn.

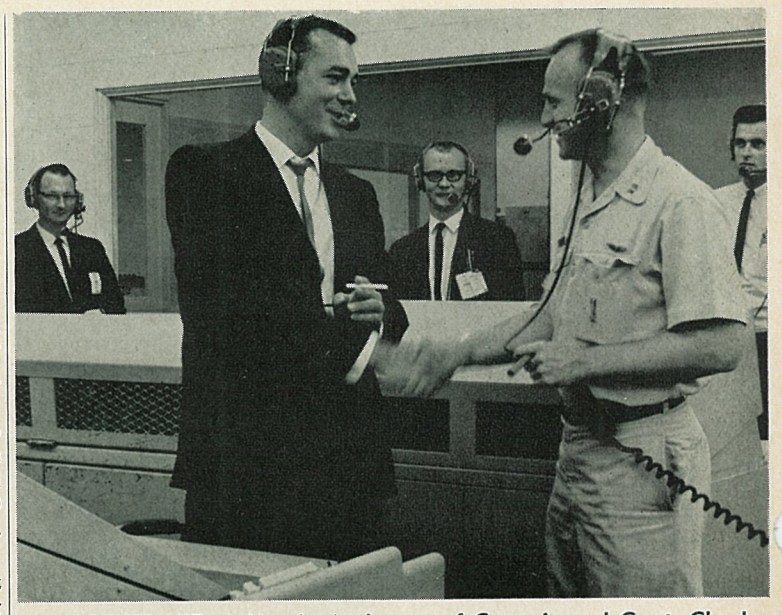
The test tanks, built during the past four months, each has 22 welds for a total of about 25 feet of machine welding to simulate welding that would be done on full-size propellant tanks that may be used in future years on long-term space probe vehicles.

Al Hucknall and J. G. Willis were project engineers, working under the direction of W. H. Schaefer, assistant chief design engineer of missile structures. David J. Gorham was program coordinator.

Test tanks were constructed by manufacturing development, Dept. 491, with Wallace Walker, Robert Baumann and Robert Manary serving as welding engineers.



TEST TANKS — David J. Gorham, manufacturing program coordinator, looks over test tanks to be used at Edwards AFB in determining resistance of "as welded" metals to corrosive action of liquid propellants. Tank at left is aluminum alloy and tank at right is stainless steel.



ANOTHER HIT — Morrie Anderson of Convair and Capt. Charles Gaetz, 6595th Test Wing, exchange congratulations following successful launch at PALC 2 complex, Vandenberg AFB. Looking on are Dick Smith, assistant site manager, Mike Berker, senior design engineer, and W. W. Orr, MAPCHE engineer.

Vandenberg's Morrie

Although He's Hit 20 Straight, Once Everything Went Black!

Morrie Anderson has become something of a legend at Vandenberg AFB, Calif., because when he "shoots," like TV's Marshal Dillon, he never misses.

To Anderson a "shoot" is a missile launch. He has fired 20 from the launch site called PALC 2 and he has scored 20 hits. This is probably the best shooting record in the missile business.

Although his full name is Frank Morris Anderson, no one at Vandenberg calls him anything but Morrie. Of the Convair colony of 500 at the base, about 100 are assigned to PALC 2 where Morrie has been site manager for the last three years.

An engineering graduate of MIT, Anderson at 33 has been with Convair nine years. He came up through the ranks from flight test engineer to lead propulsion engineer to senior flight test engineer.

All of Anderson's shoots have been Atlas-Agena combinations, the Atlas being the giant SLV-3, Space Launch Vehicle. The Convair crew at PALC 2 prepares the SLVs for flight. All their work receives Air Force direction from Maj. Virgil Kuns, who represents the 6595th Aerospace Test Wing as launch controller. When Major Kuns gives the "go" to launch, Anderson is the one who takes the countdown through those last few vital seconds.

Also involved with the launches are Lockheed and General Electric personnel, whose concern is with the upper stages.

Although the blockhouse atmosphere during a countdown is usually one of quiet, professional competence, with little or no tension, there have been moments of excitement.

"It was my first launch," Anderson recalled recently. "Everything was going fine. I counted down to zero and looked up at the TV monitor to watch lift-off.

"Just as the bird fired up, the whole blockhouse went black. Complete darkness. Everything went out—lights, television, communications—everything! Man, I was sure I had blown up the whole works!"

Communications were quickly restored and the first word was welcome. The bird was flying perfectly, right on schedule!

"What happened? The flame bucket deflects the missile exhaust out into a canyon that leads away from the launch pad. Just around the bend were two utility poles holding a big transformer. The force of the missile exhaust knocked it out."

(The transformer was relocated and the blackout hasn't happened again.)

In the first shot, and the 19 that followed, Anderson and his crew have never had a miss, but there was one countdown when they were ready to scrub and launch another day. In the last few seconds the SLV developed a liquid oxygen leak, instantly spotted on the TV monitor.

The leak had shown up the day before, during a practice DPL (dual propellant loading). The crew then checked and tightened all connections, but couldn't find a leak. Anderson quickly theorized that the cause of the leak would only show itself when the bird was chilled by liquid oxygen.

"We backed out the propellants and dashed to the bird while it was still cold," Morrie recalled. "Sure enough, there was this B-nut that was tight at ambient temperature but not tight enough when cold."

The bolt was tightened and it was back to the blockhouse to resume the countdown. The bird was launched, on schedule.

People Mobility

Interdivisional Transfers

(Following are recent personnel transfers among General Dynamics divisions. In parentheses are dates when individuals joined the company.)

ELMER R. PETERSON (1941) from vice president-research and engineering at Pomona division to Convair division as vice president-research and engineering, succeeding **R. C. SEBOLD** who is retiring after 35 years service. Succeeding Peterson at Pomona is **W. J. MORROW** (1947).

MICHAEL J. WATTERS (1964) from Corporate Headquarters, New York, to controller's department, Electronics division, Rochester; **WILLARD E. CADDELL** (1957) from Fort Worth division to weight engineer, senior, Convair division; **GEORGE A. TATUM** (1960) from Convair to budgets, Fort Worth; **RICHARD G. CAMP JR.** (1950) from Convair to AIS test general supervisor, Electronics (Quincy, Mass.).

ROBERT E. STEVENS (1960) from Fort Worth to budget analyst, senior, Centaur program, Convair; **CHARLES E. MANCHEE** (1958) from Convair (Cape Kennedy) to purchasing, Electronics, Rochester; **VERNON E. NAGLE** (1953) from Convair to F-111 configuration control, Fort Worth; **ROBERT W. ERN** (1955) from Electronics, San Diego, to engineering, Electronics, Rochester; **CARL V. STARNES** (1960) from Convair to engineering-logistics, Electronics, Rochester.

SAN DIEGO EDITION

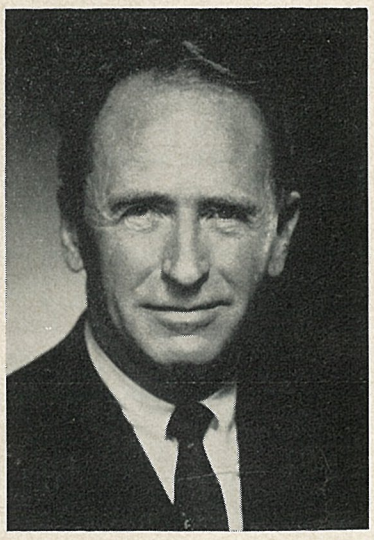
GENERAL DYNAMICS NEWS

Vol. 18, No. 26 PUBLISHED BY GENERAL DYNAMICS CORPORATION Wednesday, December 22, 1965

Christmas Message From Roger Lewis

"Christmas 1965: As Americans, our achievements have never been greater. We have ventured further into space, deeper into the seas than ever before; millions of our fellow men have attained new levels of personal dignity. Yet, at the same time thousands of us are facing an enemy on the battlefield.

"Christmas is traditionally a time of giving, of sharing, of renewing our faith. To each of you and to your families, my sincere wish is that Christmas may bring its traditional joys.



"And most particularly, for our sons and brothers in the Armed Forces around the world, I share your prayer for their safety, and the hope that their courage, dedication and sacrifice will hasten the day when Christmas may truly mean Peace on Earth to all men in equal measure."

Roger Lewis
President

'Tiger Team' Examines Atlas For Agena Shot

Convair "tiger teams" have established quite a reputation as critical evaluation specialists who demand perfection in every space launch vehicle built by the company.

The tiger team operations are above and beyond the regular thorough and critical checks made by field and factory personnel and provide an extra degree of assurance that each launch vehicle will accomplish its intended mission.

One of the teams was at Kennedy Space Center last week going over Atlas SLV 5302 which will lift an Agena target vehicle into orbit for Gemini astronauts to use in first in-space docking maneuvers.

Each space launch vehicle built at Convair gets the "tiger team treatment" three times—once in demated configuration, once in mated configuration and once at the launch site. In addition, a team official—usually Bill Taylor —makes a last-minute check during the final countdown.

Convair has had its teams working on an informal basis since the first Atlas was being put together and the teams have had formal organization within the Space Launch Vehicles project since 1962.

Officials say the teams have been "one of the contributing factors" in the marked improvement of SLV reliability in recent years and in the complete success of the manned Project Mercury flights.

Tiger team captains are under the direction of R. I. Kreisler, who reports to L. W. Standley of design review. The operation is part of systems engineering and reliability managed by H. A.

(Continued on Page 2)

S-C Dinner-Dance Set For Thursday

Stromberg-Carlson people will celebrate the holidays with their annual Christmas dinner-dance this Thursday evening, Dec. 23, at the El Cajon Elk's Lodge.

A steak dinner at 7:30 p.m. will follow the 6:30 social hour. Dancing to Bill McEvoy's Quartet will start at 9. S-C Management Club is picking up the tab for the music. Everyone will be eligible for prizes.

Tickets are $1.50 each for S-C employes and members of their immediate families; $3 apiece for guests.

In charge of arrangements are Jim Pascarella, Jim Stubbs, Fred Nuzzo, Clay Murdock, Merle McLaughlin, Ken Crossen, and Jack Weaver.

Carl Holschuh Appointed Vp By Roger Lewis

Carl G. Holschuh has been appointed a vice president of General Dynamics Corporation, Roger Lewis, president, announced last week.

Holschuh, former executive vice president and a director of the Sperry Rand Corporation, has had 32 years of experience in the aerospace industry as an engineer and manufacturing executive. He holds many patents and was responsible for the Sperry gunsight and turret developments for the B-17 during World War II.



JOINS GD — Carl G. Holschuh, new General Dynamics vice president. He will be assigned to Company long range plans, announced Roger Lewis, president.

Initially at General Dynamics, he will work closely with Lewis on long range plans and organization.

Holschuh joined the Sperry Gyroscope Co. in 1933 as a research engineer. He subsequently was promoted to chief engineer, vice president for manufacturing, vice president and assistant general manager, executive vice president and general manager and then president and general manager.

Early in 1958, Holschuh was elected executive vice president of the Sperry Rand Corporation, of which the Sperry Gyroscope Co. is a division. He had responsibility for operation of the group of companies that comprised the corporation before its 1955 consolidation.

Holschuh was born April 23, 1909, in New York City. He was graduated from Rutgers University in 1931 with a Bachelor of Science degree.

He is a member-at-large of the Council of the American Ordnance Association, and a member of the Association of the United States Army and the Air Force Association.

Hourly Savings Plan Outlined

A Savings and Stock Investment Plan for hourly employes of Convair and Pomona divisions, who have at least one year continuous service, will go into effect Jan. 1.

Also included are eligible employes of Stromberg-Carlson and Electronics division based at San Diego.

The Plan is very similar to the one for salaried personnel (GD/NEWS, Sept. 1, 1965). As in the salaried Plan, General Dynamics will add 50 cents to every $1 the employe saves.

Whether the employe elects to contribute to the Plan or not, the Company will make an original contribution to the account of each eligible employe based on qualifying service under the extended layoff benefits plan, which is being terminated.

Contributing members may elect to save a percentage of base pay by payroll deduction, according to the following schedule: Plan Year 1966 and 1967, 2 per cent or 4 per cent; Plan Year 1968, 2, 4 or 6 per cent; 1969, 2, 4, 6 or 8 per cent; 1970, 2, 4, 6, 8, or 10 per cent.

Booklets explaining the Plan, as well as copies of the General Dynamics prospectus, were distributed and supervision is prepared to answer questions.

Each eligible employe receives two sign-up forms. One is to designate how he wants the Company's original contribution invested. The other is to designate if he wishes to contribute himself (and if so, how he wants this invested) or if he wishes to waive the right to contribute.

Deadline for returning sign-up forms is Dec. 29. However, employes were asked to return them through supervision as quickly as possible to minimize the burden on accounting.

Members have four choices as to how they wish funds in their accounts invested:

(1) One-third in Government Bonds; one-third in a "diversified portfolio" of stocks of companies other than General Dynamics; one-third in General Dynamics common stock.

(2) One-third in Government Bonds; two-thirds in General Dynamics stock.

(3) One-third in Government Bonds; two-thirds in the "diversified portfolio."

(4) 100 per cent in Government Bonds.

(A "diversified portfolio is a collection of shares of stock in a variety of different companies, selected by professional investment managers.")

All funds invested will be managed by a Trustee, the Bankers Trust Company of New York City, and reports will be issued annually to individuals as to the status of their holdings.

(Continued on Page 2)

SALVAGE YARD SALE PUT OFF

No salvage yard sales will be held the rest of this month because of the two long holiday weekends over Christmas and New Year's. The regular alternate Saturday schedule will be resumed on Jan. 15 at the Lindbergh Field plant. Kearny Mesa salvage yard has been discontinued because of lack of material.

Electronics-SD ZD Award Won By Laboratory

First Zero Defects awards honoring top performing departments at Electronics-San Diego went this month to Quick Reaction Capability laboratory under Frank Berry, as best-ranking manufacturing area, and to Dept. 12-50, office services under L. M. Hanson, as top non-manufacturing function.

In presenting ZD banners to the winning sections, D. C. Prim, general manager of Electronics-SD, said, "Daily excellence in error-free production of a high quality product is paying off in many ways at San Diego. Our products work with less debugging, our customers are pleased with product performance, and our manufacturing span time is not increased by rework time in the competitive environment of today's electronic business.

"I'm glad we have adopted the ZD business philosophy."

Quick Reaction Capability lab's error-free record during the 20-week period used as criteria for the awards was a low 2.4 defects per 100 shop hours. Defects per assembly was only .34!

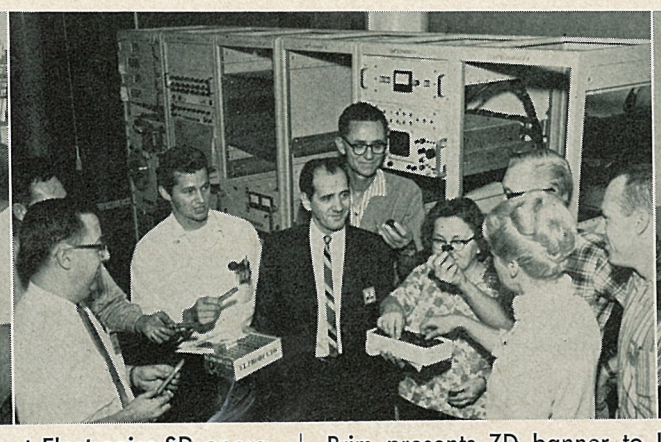
Office services personnel were singled out for their efficient, quick, and courteous service.

REINS electronic assembly was close on the heels of QRC as runner-up in production functions. Other areas competing in the manufacturing division of the Zero Defects program are Jet Propulsion Laboratory electronic assembly, Terrain Following Radar electronic assembly, JPL, REINS, and TFR fabrication areas.

Non-manufacturing sections include, besides office services, industrial relations, cost and price

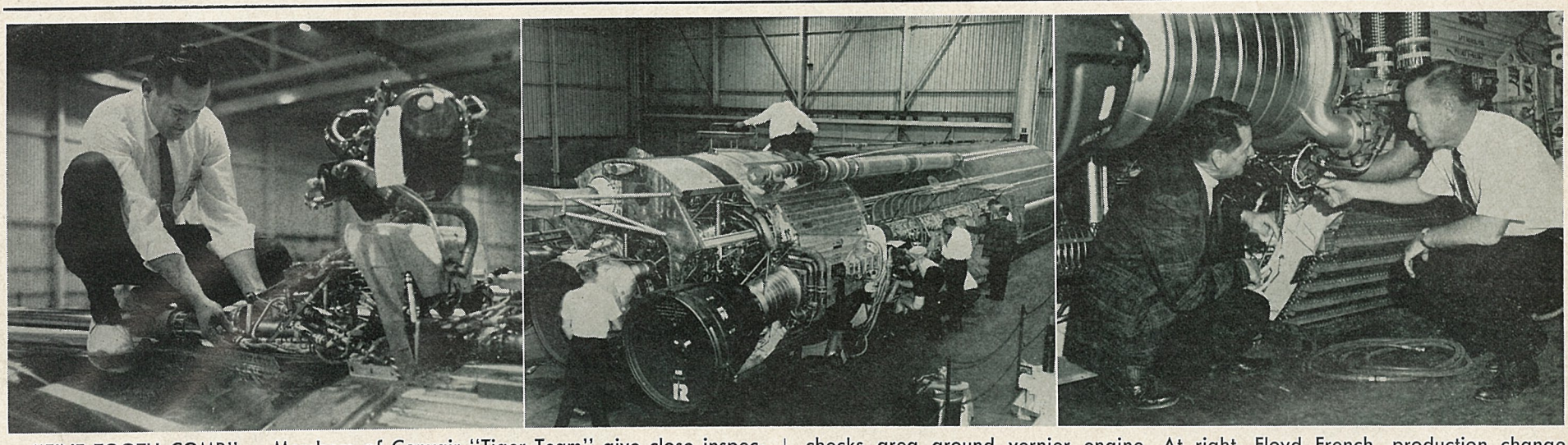
(Continued on Page 6)







FIRST ZD WINNERS — First Zero Defects awards made at Electronics-SD operation went this month to (left photo) Quick Reaction Capability lab as top manufacturing area. D. C. Prim, general manager, and W. J. Hemmer, manager of operations, congratulate Frank Berry, QRC foreman, and his some 40 people. At right, Prim presents ZD banner to Len Hanson for office services, chosen as best non-manufacturing area. Other office services personnel are (from left) Steve Catron, Gerri Radiske, Bernice Padua, Pete Abrahano Jr. In center shot, Berry passes out cigars and candy as Electronics management's treat for top-performing employes.



"FINE TOOTH COMB" — Members of Convair "Tiger Team" give close inspection to SLV 5303, scheduled to boost Agena target vehicle into orbit for in-space docking maneuver. At left, Ray S. Stevens of airborne structures (Dept. 661-0) checks area around vernier engine. At right, Floyd French, production change analyst (Dept. 763-0), and Jim Ball, senior reliability engineer (Dept. 672-0), examine lower part of B-1 booster engine.

Log Book Entries

Service Emblems

CONVAIR

Service emblems due between December 15 and Dec. 31.

Thirty-year: Dept. 031-0, G. A. Dewey; Dept. 410-0, O. P. Stockton; Dept. 759-0, T. L. Gilchrist.

Twenty-five-year: Dept. 031-0, A. C. Martin; Dept. 142-2, C. R. Mabry; Dept. 170-2, R. E. Brown; Dept. 509-1, M. G. Henderson; Dept. 732-0, H. L. Williams; Dept. 832-1, R. H. Moore; Dept. 835-1, W. R. Kemper; Dept. 976-0, R. E. Harper.

Twenty-year: Dept. 024-0, C. B. Harper Jr.; Dept. 110-2, J. S. Boaz; Dept. 715-0, P. R. Barley, M. L. Hawkes; Dept. 839-2, C. F. Kempner; Dept. 946-2, M. B. Stewart Jr.

Fifteen-year: Dept. 001-0, J. W. Palmore; Dept. 002-0, K. W. Stevenson; Dept. 015-0, L. S. Allison; Dept. 110-1, A. T. Wood; Dept. 132-2, L. J. Shunneson; Dept. 142-2, L. Helton; Dept. 143-5, T. J. Marcella; Dept. 143-6, J. I. Homan; Dept. 193-3, G. F. Lawrence, J. F. Matthews; Dept. 195-5, J. B. Henn; Dept. 195-7, W. Minando; Dept. 210-2, D. Clough; Dept. 227-0, J. D. Womack; Dept. 401-0, E. Owens; Dept. 401-4, R. G. Sanders; Dept. 506-5, W. R. Hoover; Dept. 511-1, W. E. Gibb, R. E. Leland; Dept. 562-2, W. E. Schmack.

Dept. 744-0, B. F. Murphy; Dept. 759, W. E. Townsend; Dept. 763-0, O. L. Wertanen; Dept. 818-1, D. E. Riley; Dept. 818-2, J. H. Kunkle; Dept. 819-0, T. W. Petett; Dept. 832-1, H. Schultz Jr.; B. L. Kovers; Dept. 835-2, H. G. Guenther; Dept. 835-6, W. F. Ward; Dept. 960-0, H. T. Dillon; Dept. 978-3, T. L. Trammell.

Ten-year: Dept. 110-1, E. R. Joos; Dept. 130-1, J. R. Cluck; Dept. 141-3, G. K. Huff; Dept. 142-2, H. R. Phillips; Dept. 143-2, S. C. McFarland; Dept. 149-2, C. E. Allan, C. T. Allen; Dept. 170-1, J. H. Schobert; Dept. 191-0, S. Drown, B. E. Gilmore; Dept. 210-1, A. M. Pilot; Dept. 226-0, R. R. Sharp; Dept. 300-3, A. H. Flood; Dept. 420-4, R. R. Rendina; Dept. 452-0, N. S. Munson, M. A. Betters; Dept. 454-0, E. Chase; Dept. 522-0, J. E. Barnes Jr.; Dept. 572-3, M. C. Miyaji; Dept. 572-4, B. W. Daniels; Dept. 574-3, L. O. Anding; Dept. 576-4, J. M. Rohr; Dept. 654-0, C. Nuno; Dept. 732-0, F. G. Niece Jr.; Dept. 733-0, H. J. Brenner, N. Jackson.

Dept. 758-0, J. V. Smith; Dept. 780-0, R. P. Devore; Dept. 818-1, R. K. Bentler; Dept. 819-0, R. J. Hostetler; Dept. 832-1, G. M. Bouchee; Dept. 833-2, J. J. Gonzales; Dept. 835-2, S. C. Runkle; Dept. 835-4, A. B. Cross; D. R. Jastroff; Dept. 839-2, E. M. Haveman; Dept. 845-2, D. S. Stone; Dept. 845-3, A. Howard; Dept. 952-3, E. Wasserman; Dept. 952-5, D. A. Heald; Dept. 953-3, D. H. Ehrreich; Dept. 974-4, J. H. Madick Jr.; Dept. 976-1, M. J. Wicks.

STROMBERG-CARLSON

Ten-year: Dept. 8501, O. F. Hamann.

Retirements

CONVAIR

ADDIS—Marks R., Dept. 6. Seniority date Jan. 19, 1951, retired July 31.

CRUMLEY—Donald P., Dept. 756-0. Seniority date May 22, 1956, retired Oct. 22.

GRAY—John G., Dept. 976-3. Seniority date Oct. 27, 1941, retired Oct. 20.

HAYNES—Wilbur E., Dept. 454. Seniority date Nov. 16, 1955, retired Nov. 22.

PARK—Earl K., Dept. 191. Seniority date March 6, 1943, retired Nov. 30.

SCHEY—Ole, Dept. 585-0. Seniority date Sept. 11, 1950, retired Nov. 30.

SHACKELFORD—Calvin M., Dept. 756-0. Seniority date Jan. 2, 1940, retired Nov. 30.

STILLMAN—Joseph D., Dept. 23-1. Seniority date Aug. 16, 1951, retired July 18, 1964.

STONE—Leo F., Dept. 149-2. Seniority date Aug. 2, 1950, retired Nov. 30.

WERNER—Winston L., Dept. 833-1. Seniority date Sept. 18, 1956, retired Nov. 30.

Deaths

CONVAIR

HARPER—James L., Dept. 545. Died Dec. 6. Survived by wife, Florence C.

General Dynamics News

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Convair division editorial offices: Kearny Mesa plant, Bldg. 8, Mail Zone 130-01, P.O. Box 1128, San Diego, Calif. 92112. Phone 277-8900, ext. 3322.

Lindbergh Field plant, Bldg. 5, Mail Zone 104-60, Phone 296-6611, ext. 1071. P.O. Box 1950, San Diego 92112.

Awards

CONVAIR

Employe Suggestion awards approved for the period from Nov. 17 through Dec. 10 totaled $7,070.42.

Dept. 001, B. McMullen, H. G. Mondy (two awards); Dept. 002, H. B. Bender, R. E. Blanco (two awards), R. A. Davis (two awards), R. Gamboa, Cleo A. Nelson; Dept. 015, L. M. Persing, C. J. Popp, N. L. Valentino; Dept. 016, Betty M. Swanson; Dept. 019, R. M. Joseph, B. C. Lovelady, D. R. Wilson; Dept. 024, J. P. Hannibal, J. D. Hayman, H. J. Liggett; Dept. 041, J. Caldwell, G. A. Hasti (two awards) R. E. Pendarvis.

Dept. 123, D. R. Pierce; Dept. 125, M. S. McGee; Dept. 126, M. R. Dehner, C. K. Martin; Dept. 128, R. L. Stegall; Dept. 140, G. W. Kocontes (two awards), Emily H. Trapp; Dept. 141, H. C. Cox, W. J. Knox; Dept. 142, R. Camp, J. W. Collins; Dept. 143, J. S. Adams, Fred A. Baugh, R. E. Hibbs, M. E. Howell, C. E. Mifflin, M. Tuskes, L. M. Walling.

Dept. 149, Ethel Myers; Dept. 193, R. C. Firestine; Dept. 250, D. H. Eldridge, G Hartwig, A. C. Mitchum; Dept. 251, J. B. Evans; Dept. 325, V. J. Farrell, R. L. Thornton; Dept. 401, Herbert Tieszen; Dept. 507, K. R. Bailey; Dept. 524, D. E. Kenyon; Dept. 576, L. L. Fowler, C. E. Johnson, J. F. Strazz, E. M. Van Huss; Dept. 644, L. O. Lyte (two awards).

Dept. 715, V. G. Harding; Dept. 733, R. A. Asperin, S. Serrano; Dept. 756, W. A. Martin, K. W. Swant; Dept. 758, C. Allen, V. Tocco (two awards), R. B. Wilson (two awards); Dept. 759, N. B. Byrd, E. Gabbard, G. E. Helminski; G. D. Lundquist (two awards), Peter Molis, C. E. Parsons, W. L. Worthington; Dept. 761, N. Chandoin.

Dept. 763, C. W. Neal, B. K. Williams; Dept. 780, J. E. Kelley, P. C. Pond, L. M. Rapp, R. A. Snyder (two awards); Dept. 821, J. A. McSparron; Dept. 833, L. Rieder; Dept. 835, J. J. Zagami; Dept. 838, R. H. Feeley (two awards); Dept. 959, G. R. Gray; Dept. 963, T. J. Henry and J. M. Stabile (joint award).

Dept. 972, K. F. Cash, J. A. Contasti, R. L. Robinson; Dept. 973, W. B. Haney, D. W. Palmer, P. A. Wolf; Dept. 974, O. P. Ray, L. E. Turner; Dept. 976, R. P. Armenta, J. Barham.

Papers Presented

CONVAIR

HEID—T. L., Dept. 587-1. "Structural Design for Crash Survival," AIAA/Aircraft Design and Technology Meeting, Los Angeles, Nov. 17.

LIEBING—L., and T. J. GOODING, Dept. 596-0. "Hall Current Measurements in a Pulsed Arc Plasma Accelerator," American Physical Society, Division of Plasma Physics, Seventh Annual Meeting, San Francisco, Nov. 8-11.

LOMEN—D. O., L. L. FONTENOT, G. F. McDONOUGH, Dept. 585-3. "Liquid Free Surface Instability Resulting From Random Vertical Acceleration," and "Dynamic Stability of Thin Elastic Plates Under the Action of Non-Deterministic Loads," Sixth International Symposium on Space Technology and Science, Tokyo, Japan, Nov. 29-Dec. 4.

ROSE—R. G., J. A. STALEY, H. A. MITCHELL, Dept. 585-0. Presentation on Contract AF04(611)-9956. Inter-Agency Meeting on System Coupled Longitudinal Oscillations, NASA Langley Research Center, Nov. 17-18.

SCHILLING—R. J., Dept. 966-3. "An Interferometric Study of Mass Transfer from a Vertical Plane at Low Reynolds Numbers," American Society of Mechanical Engineers, Winter Annual Meeting, Chicago, Ill., Nov. 7-12.

WILLIAMS—A. E., Dept. 420-8. "V. E. Applications to Tool and Manufacturing Engineers," Society of American Value Engineers Colloquium, San Diego, Calif., Nov. 1.

WILLIAMS—D., Dept. 681-0, and R. H. NICHOLSON, Dept. 147-0. "Configuration Control at the Launch Site," American Society for Quality Control—Aerospace and Missile Division National Conference, Cocoa Beach, Fla., Nov. 10.

Invention Disclosures

CONVAIR

SLYSH—Paul, Dept. 542-0. Automatic Screw Driver (Ratio). Manned-Automatic Spaceborne Structural Assembly Equipment (Ratio).

TUTTLE—C. Roe, Dept. 581-2. Configuration for a Submersible Seaplane. A Hydrostatic Control System for a Submersible Seaplane.

WIELAND—Kenneth L., Dept. 696-2. Variable C. G. Control System for Aircraft.

Personals

CONVAIR

Thank you so much for the kind expressions of sympathy and the flowers at the death of my husband.

Mrs. Clifford Berger and family.

* * *

We wish to express sincere appreciation to our Convair friends for their cards and other expressions of sympathy following the death of our wife and mother, Micheline Cazaux, who passed away Dec. 1.

George Cazaux, Dept, 553-2, and children.

In-Plant Training

ORIENTATION

NEW EMPLOYES—Educational services staff. Lindbergh Field, ext. 491. Bldg. 14 Auditorium, Tuesday, Jan. 11, 8 a.m. and 4:30 p.m. Kearny Mesa, ext. 1931. Bldg. 17, Room 3. Monday, Jan. 3, 8 a.m.

PROFESSIONAL/TECHNICAL

MIL-Q-9858A ORIENTATION—Educational services staff. Jan. 4, 5, 6, 7. 9:15-10:15 a.m. Room 7, Bldg. 17, Kearny Mesa. For information and quota call Harry Miller, ext. 1931, Kearny Mesa.

F&CD-IR—Hal Rubin, Lindbergh Field, ext. 491. Call for future schedule.

MILLING MACHINE OPERATORS (On-the-Job Training)—Eight hours per day, 26 weeks, Kearny Mesa coordinator, Harry Miller, ext. 1931. Lindbergh Field coordinator, Wayne Turner, ext. 491.

AIRPLANE MECHANICS (On-the-Job Training)—Eight hours per day, 26 weeks. Lindbergh Field Bldg. 3. Coordinator, Wayne Turner, ext. 491, Lindbergh Field.

RELIABLE ELECTRICAL CONNECTIONS—Educational services staff. For information and quota call ext. 1931, Kearny Mesa. Weekly 7 a.m.-3:45 p.m.; Room 10 ,Bldg. 17, Kearny Mesa.

AFTER HOURS TRAINING IN-PLANT

CITY COLLEGE SPRING COURSES—Registration Jan. 10-13, Room 2, Bldg. 17, Kearny Mesa, 3:30-5:30 p.m Jan. 10 and 11, Room 8, Bldg. 14, Lindbergh Field, 3:30-5:30 p.m. Courses offered: Introduction to Digital Computers; Computer Logic & Circuitry; Calculus for Electronics; Math for Electricity & Electronics; Introduction to Technical Writing; Advanced Technical Writing; Introduction to Supervision; Blueprint Reading. Course descriptions and applications at educational services offices. For information contact Dick Forrest, ext. 1931, Kearny Mesa; Wayne Turner, ext. 491, Lindbergh Field.

BLUEPRINT READING — Bill Sherman, ext. 491, Lindbergh Field. Oct. 25 to Jan. 26. Monday and Wednesday, 3:45-6:15 p.m., Bldg. 14, Room 5.

OUT-OF-PLANT

SAN DIEGO STATE COLLEGE—Catalogues are available at Convair educational services offices, both Kearny Mesa and Lindbergh Field plants.

Hourly Saving Plan to Begin

(Continued from Page 1)

In the event of death, retirement, layoff, total and permanent disability or involuntary entry into military service, holdings resulting from both Company and individual contributions become immediately available.

Although a contributing member may withdraw his own savings, there are limitations as to when he is entitled to the funds contributed by the Company in his behalf.

Basically, the Plan operates on a cycle of four calendar years. During Year No. 1, employe savings cannot be withdrawn without forfeiting Company contributions, and the same situation exists in Years No. 2, 3 and 4. At the end of Year 4, however, the employe may elect to withdraw both his own savings made in Year No. 1, as well as the Company's matching contribution in that year. At the end of Year No. 5, he may elect to withdraw his own savings and the Company's matching contributions made during Year No. 2. And so on.

Funds contributed as a result of termination of the extended layoff benefits plan cannot be collected, however, under any circumstances so long as the individual remains employed by the Company.

When telephoning, never mind the weather. Get to the point. Telephone time costs money.

'Tiger Team' Examines Atlas For Agena Shot

(Continued from Page 1)

Mellinger (Dept. 670-0).

Members of the 12 to 15-man teams have responsibilities involving manufacturing, quality control, instrumentation, electrical systems, propulsion, pneumatics, hydraulics, propellant controls, stress analysis, structures, aerophysics, dynamics and flight control.

James Ball, one of the team captains, said each member is hand picked because of his ability to detect present or potential problems and insist on perfection. Each member has authority to make decisions for the group he represents.

Discrepancies and problem areas found in the team reviews are listed along with proposed solutions. Corrective action taken, the report is signed by an inspector and returned to the team captain. The team captain is responsible for assuring final closeout of all discrepancies.

The team captain is assigned to a booster long before it is ready for its first review. He follows it closely enough to be knowledgeable of its entire history.

Each team member receives a certificate of appreciation for his services. A small gold seal with the vehicle number printed on it is attached to the certificate after each successful flight on which the team member worked.

"We may not have a tiger in the tank when one of our launch vehicles leaves the pad," Ball said. "But every successful launch is an indication of a job well done by one of the tiger teams and by the whole Convair organization."



ARMY HONORS — Wes E. Magnuson, chairman of Convair's "Do Good Work" program, receives Department of Army's certificate of appreciation for patriotic civilian service from Lt. Gen. J. E. Engler, commanding general of U.S. Army Supply and Maintenance Command, in ceremonies in Washington.

Convair's 'Good Work' Program Noted in Award to Magnuson

Wes E. Magnuson, chairman of Convair's "Do Good Work" program, was presented the Department of the Army's Patriotic Civilian Service Certificate of Appreciation in ceremonies Dec. 7 in Washington, D. C.

Lt. Gen. J. E. Engler, commanding general of the Army's Supply and Maintenance Command, made the presentation and commended Magnuson for outstanding service in support of the Army's zero defects-type programs.

Magnuson in recent months has assisted with establishment of zero defects-type programs at the Supply and Maintenance Command's Tooele, Sharpe and Red River Army Depots as well as at other military installations and industrial firms.

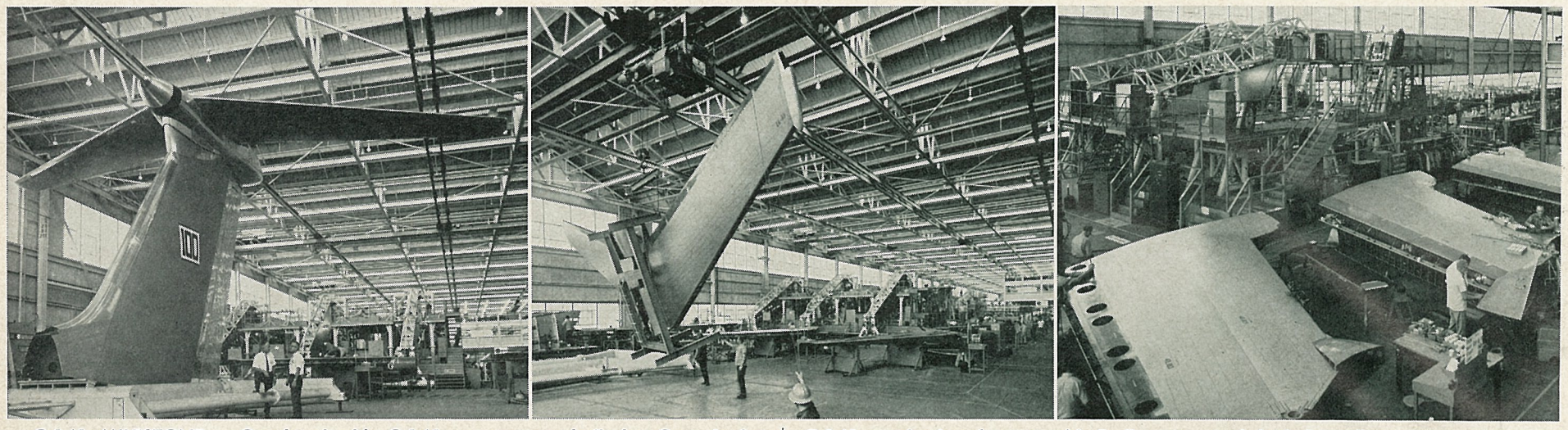
A citation accompanying the certificate said Magnuson's "obvious enthusiasm and professionalism in presenting this timely and worthwhile program encouraged the needed interest of the many individuals who pledged their personal support.

"The U. S. Army Supply and Maintenance Command, the U. S. Army and the nation in general have benefited from his knowledge and experience which have been so freely given," the citation states. "His contributions and achievements are significant demonstrations of outstanding patriotic service and are indeed worthy of special recognition."

Magnuson also received a special lapel pin.

Engler commented on the benefits to be derived from "doing good work" and "doing it right the first time" and lauded recipients (including two from the Martin Company) for their "untiring efforts in assuring that weapons and equipment for defense are put into the hands of our soldiers in the best possible condition."

Robert Sutton, public information officer for the Supply and Maintenance Command, said Patriotic Civilian Service certificates are rarely given by Army commands and that those presented to Magnuson and the Martin men were the first for zero defects-type program assistance.



C-141 MILESTONE — One-hundredth C-141 empennage built by Convair for Air Force jet cargo planes stands tall in Lindbergh Field plant production area before shipment early this month to Lockheed-Georgia Co., prime contractor. At left, C-141 production foreman, N. P. Pearson, and Jack Benedict, assistant foreman, admire towering component — four stories high. Photos in center and at right show horizontal and vertical assembly lines. Photos by Bob Herrmann.

Research Submarine Asherah Back From Exploring Hawaiian Waters

General Dynamics-built research submarine, Asherah, has joined the company's first research submarine, Star I, at the GD Marine Technology Center, Harbor Drive Test Site, San Diego, to continue work as a test vehicle in development of underwater equipment throughout the winter months.

It has just completed two successful research operations in the Pacific Ocean off Hawaii for the Department of Interior's Bureau of Commercial Fisheries and for the University of Hawaii.

The Bureau of Commercial Fisheries operated Asherah for more than a month in the waters off the Hawiian Islands. Bureau scientists made 50 dives to study fish in their natural habitat and, for the first time, observe fish while their sounds were being recorded. Twenty-three of the dives were to the submarine's maximum operating depth of 600 feet.

Rear Adm. Eugene B. Fluckey, Pacific Submarine Force Commander, piloted the Asherah to a depth of 600 feet on one Bureau of Commercial Fisheries dive. Mrs. Clare Boothe Luce, former U. S. Ambassador to Italy, was a passenger on another dive.

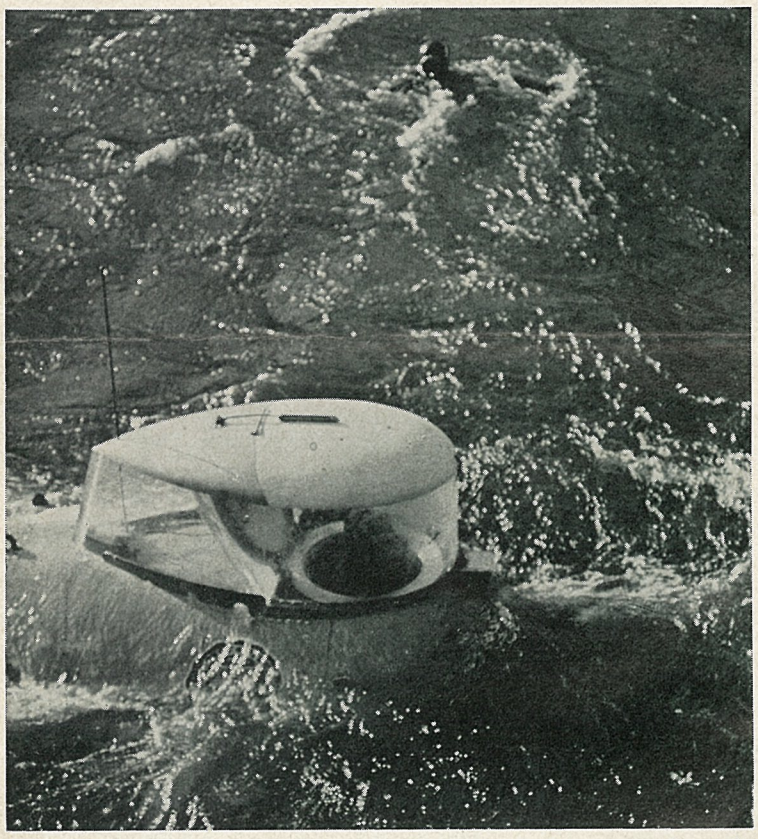
The University of Hawaii used the 17-foot craft for a one-week study of marine growth and ocean bottom topography near the Hawaiian island of Oahu.

Over the past 18 months, Asherah has completed successful oceanographic research operations in the Aegean Sea, the North Atlantic and Long Island Sound.

The vessel is being returned to San Diego for routine maintenance before resuming research operations.

Asherah was designed and built by Electric Boat division. It is owned by the University of Pennsylvania Museum and is leased for scientific research projects. Operating and support personnel are supplied by Electric Boat.

Two more research submarines are under construction at Electric Boat and will be launched early next year. They are the two-man Star II, which is similar to the Asherah but equipped with a high-strength hull that will permit operations to a depth of 1,200 feet, and the three-man Star III, which will be fitted with an external mechanical arm and will be able to operate down to 2,000 feet.



SEA "GODDESS" — General Dynamics-built research submarine, christened "Asherah" after Phoenician goddess of deep, breaks sparkling waters of Narragansett Bay, R.I., during exploration of sea floor this summer. Note diver in background. Submarine now is based at Marine Technology Center, San Diego, Calif., for overhaul before further underwater research. It also will be available for lease to outside companies.

Additional C-141 Tails Ordered by Lockheed

Convair division of General Dynamics has received go-ahead for approximately $27 million for additional tail sections for U. S. Air Force C-141 jet cargo transports from Lockheed-Georgia Co., Marietta, Ga., prime contractor.

Convair received its initial C-141 contract in late 1961. It called for engineering design, tooling, and production fabrication of five tail sections, and fatigue and static test articles.

The follow-on order will extend production of C-141 empennages at the San Diego plant through August of 1967 and brings total contracts so far to approximately $70 million. Currently there are around 450 people assigned to the program.

The 100th empennage built by Convair moved out of San Diego for Marietta Dec. 13 after fit-and-alignment performance which involves mating horizontal and vertical stabilizers and all components. Every 25th article must be completely assembled at Convair, and inspected by Air Force, Lockheed, and Convair to satisfy interchangeability requirements. The empennage is then disassembled for shipment by specially-constructed hydra-cushion cars.

"Progress of our C-141 program is extremely satisfactory," said R. W. Miller, Convair C-141 program manager. "And, most important of all, the Air Force and Lockheed are pleased with the quality of our product. The plane has been well received by the Military Air Transport Service which is now flying C-141s to all parts of the world. Convair is most gratified that it has been able to contribute to this program, and we have every hope that C-141 production will extend well beyond the presently forecast 1967 date."

Mated to the fuselage, the T-shaped tail towers 39.3 feet above the ground and has a horizontal surface span of 50 ft., as much as the total wing span of a jet fighter.

Ladders are built into the fore and aft sections of the vertical stabilizer, allowing mechanics to service systems and gain access to the outside surface of the horizontal stabilizer.

The C-141 is the first aircraft to be designed for Federal Aviation Certification as a commercial airfreighter while meeting military specifications as a cargo aircraft. It is designed for speeds up to 550 miles per hour and can carry payloads approximating 85,000 pounds.

First flight was in December, 1963, and first C-141 was delivered to the Air Force in October, 1964.

The C-141 Systems Program Office of the Air Force Systems Division, Air Force Systems Command, is directing development and procurement to modernize the Military Air Transport Service's airlift.

National Advertising Campaign Will Stress GD's Vast Capability

A General Dynamics advertising campaign will begin in January. with a different ad appearing each month in a wide range of national magazines.

An "institutional campaign," the ads stress GD's wide-ranging technological capability. A key paragraph, which appears in each one, reads: "General Dynamics is a company of scientists, engineers and skilled workers whose interests cover every major field of technology, and who produce: aircraft; marine, space and missile systems; tactical support equipment; nuclear, electronic and communication systems; and industrial equipment.

The ads will have a general editorial tone and are written as short magazine articles to explain key aspects of the technologies in which GD is engaged, why they are important and how they work. Over a period of time, they will cover most of the widely varied operations of the Company, although each ad will deal with a single subject.

Media will include news magazines, opinion-forming and business publications, aerospace and science magazines, etc.

The January ad is headed by "Variable Sweep Wings: A report from General Dynamics." It is illustrated by photos of the F-111 and a sketch showing "how the wing works." A novel two column box includes a comparison of the F-111 in extended wing position with the wing configuration of the CL-44, another comparing the partially swept position with that of the Convair 990; and still another showing the similarity between the full sweep position of the F-111 with that of the Convair F-106 delta wing. The implication is "three airplanes in one."

The ad's lead paragraph reads: "This week, several pilots redesigned their airplanes in flight. Shortly after takeoff, each pilot moved a trombone-shaped slide in his cockpit and folded back the wings of his plane . . ."

Among ads which will follow are: "Keeping Alive in Space"; "Research Submersibles"; "Tactical Missiles"; "Catching Up With Computers."

Divisions to Pool Calibration Capabilities For Interchange

Calibration techniques, capabilities, equipment now available at divisions of General Dynamics will be listed for the information of all facilities as a result of action taken at a meeting of the GD Panel on Metrology last month at Pomona division.

C. G. Franklin, who heads Electronics-SD test equipment calibration and control, will be responsible for compiling a composite list of GD test equipment. E. E. Brewer, manager of Pomona division's engineering standards and test equipment services, will collect full information on divisions' measurement techniques and equipment.

These lists will go to all GD divisions for their use. Divisions will be able to draw on each other for calibration needs.

Calibration representatives from five GD divisions and Canadair Ltd. took part in a workshop discussion of military specifications spelling out calibration procedures. The discussion was chaired by Algird Steffan, head of the laboratory support division of BUWEPS Metrology Engineering Center at Pomona.

Attending the panel, which was held in conjunction with the GD Reliability Panel, were A. J. Woodington, Convair manager of calibration and standards lab and Metrology Panel chairman; J. E. Vondracek, supervisor of Convair calibration laboratories; Franklin from Electronics-SD; Brewer, K. R. Turnbaugh, project coordinator in quality assurance, and C. D. Brown, supervisor of factory standards lab, all of Pomona division; Earl Murphy, Fort Worth division standards lab manager; and G. I. Robinson, chief of Canadair's experimental department.

In the future the Metrology Panel will hold its quarterly meetings separately from the Reliability Panel. Next meeting will be in early 1966.



"Some lunch! A squeeze tube of Astro-9, a squeeze tube of beef broth, a squeeze tube of spinach, and the latest aerospace publication."



FOR CHARITY — Con-Trib-Club donations to local charities were made at widely separated points recently. At left, a $500 check for Santa Ynez Valley Hospital is handed to Dr. John Flemming by Judith Bower of Convair facility at Vandenberg AFB, Calif., as James Stolle of Convair, and Melvin Wipf and Earl Hatch of the hospital look on. Left center: Brig. Howard Sloan of Salvation Army at San Diego receives $2,500 check from L. E. Wills and W. J. Dawsey of Convair. Right center: $1,000 check on behalf of Convair employes at Cape Kennedy is presented to Harry Dresser of Central Brevard Crippled Children's Clinic by little Doug Mazza, son of John Mazza (far right), Con-Trib rep. Young Doug and Dan Campbell (left), son of Convair's Les Campbell, receive therapy at clinic. Far right: B. G. MacNabb, manager of operations for Convair at Cape Kennedy, presents $1,000 check to G. T. Smiley for Brevard County United Fund. Smiley heads fund's ETR drive.

Electronics Shifts Fabrication Work

Consolidation of fabrication operations of the Electronics facility at San Diego was completed this month with the relocation of functions to Bldg. 72 from Bldg. 4 at the Lindbergh Field plant.

Electronics fabrication, under L. F. Kruse, foreman, formerly occupied 42,000 sq. ft. of area in the southeast end of Bldg. 4. The released space is now occupied by Convair shipping.

The overall relocation effort was coordinated between the plant engineering departments of Convair and Electronics - SD.

Now operating in Bldg. 72, former Convair dynamics test laboratory facility, are Electronics machine shop, sheet metal fabrication, welding, fabrication inspection, material dispatch, receiving and shipping.

By mutual agreement of Convair and Electronics, the painting and etch circuit board facilities of Electronics will remain in Bldg. 4.

SHIPPING FUNCTIONS NOW AT LINDBERGH

All Convair shipping functions now have been consolidated in Bldg. 4 at Lindbergh Field plant. The shipping operations formerly located at Rose Canyon and at AF Plant 19 were moved this month into the southeast end of Bldg. 4 with entrance at the south, at the former Electronics receiving door.



"BIG BROTHERS"—Con-Trib-Club check for $500 is presented by Ted Bianchi of Dept. 576-1 to Brig. Gen. William S. Rader, left, deputy commander of 1st Strategic Aerospace Division at Vandenberg AFB to support base's annual "Operation Big Brother." Under program, underprivileged youths are brought to base and given a "day with Santa" in which they receive gifts, clothing and groceries. Convair employes at Vandenberg have supported program every year since it started five years ago.

Con-Trib-Club Charity Gifts At Vandenberg Total $150,000

Con-Trib-Club donations totaling more than $150,000 have been made to charities in northern Santa Barbara county during the past eight years, on behalf of Convair employes assigned to Vandenberg AFB.

Among recent gifts was a $500 check to Santa Ynez Valley Hospital in Solvang, about 50 miles north of Santa Barbara.

James Stolle and Judith Bower, representing the 500 Convair employes at Vandenberg, presented the check to Melvin Wipf, hospital administrator, who said the funds will be earmarked for purchase of additional X-ray equipment, and Dr. John Flemming of the hospital medical staff.

The Con-Trib-Club gave $3,000 to a community campaign to build the hospital about two years ago.

Vandenberg Con-Trib-Club representatives also recently gave $10,000 to the United Fund and $525 to the Lompoc Hospital.

Sons and Daughters Reminded About Merit Scholarships

Sons and daughters of General Dynamics employes who are high school juniors and who wish to be considered for General Dynamics Merit Scholarships should take the first step toward qualification within the very near future.

High school students who expect to graduate in 1967 may apply now to take the National Merit Scholarship Qualifying Test, ordinarily given to second semester juniors or first semester seniors during March of each year. Application must be made through the student's high school counseling office.

Local high schools usually establish a deadline shortly after the first of the year for applying for the test.

Schools forward names of applicants to the National Merit Scholarship organization in January and tests are given by name. At most schools the student pays a $1 candidate fee to offset costs of administering tests.

All natural and legally adopted children of regular General Dynamics employes are eligible to compete for the scholarships. Employes must have completed at least two years of continuous company service by the end of the year prior to award of scholarships. Children of retired or deceased employes are also eligible.

Each Merit Scholarship is a four-year award and the amount is determined by family financial circumstances and actual cost of attending the college or university.

In addition, General Dynamics makes grants to the schools chosen by the winners to help make up the difference between the cost of tuition and the actual expenses of the school.

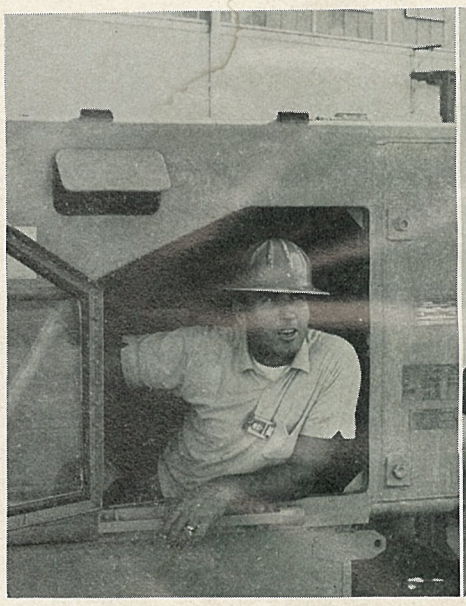
Students making high scores on the first qualifying test become semifinalists and are asked to take a second test in December of their senior year. Those again making high scores in December become finalists.

Further information may be obtained by contacting division educational services offices.

Museum Admission Price Cut Offered

Only one Studio Club membership card is required for all members of a Convair family to obtain 20 per cent reduction in admission prices for the Movieland Wax Museum in Buena Park.

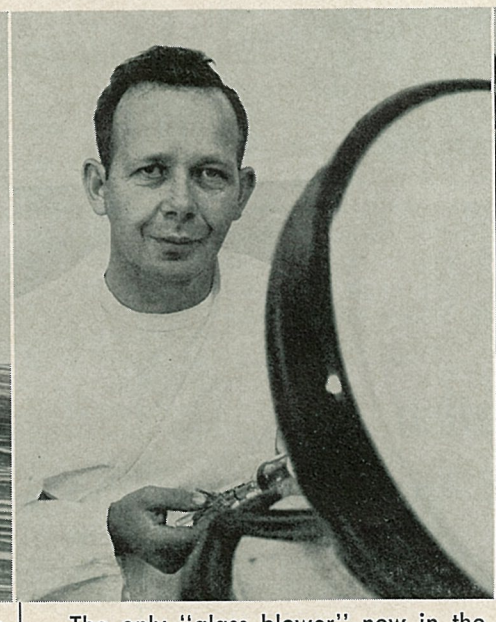
Studio Club cards are available without charge at all employe services outlets. The museum, located a block from Knotts Berry Farm, is open from 10 a.m. to 9 p.m. Sundays through Thursdays and 10 a.m. to 10 p.m. Fridays and Saturdays.



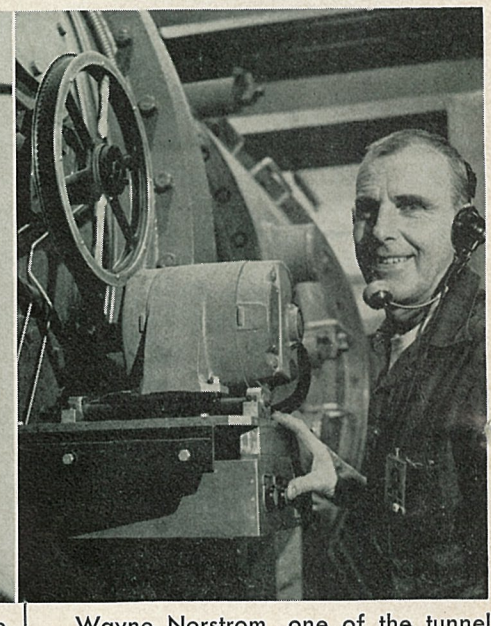
R. S. Montgomery, a crane rigger in Dept. 250-5 at Air Force Plant 19, serves as a "backseat driver" on one of Convair's unique space launch vehicle trailers. The trailers have cabs on both sides at the rear for tillermen to use in steering the rear wheels. The giant trailers have remarkable maneuverability for their size and length. The rear cabs each have two-way communications equipment, their own steering wheels and air brake levers and controls. Montgomery has been a Convair employe 24 years, lives in La Mesa and has a 19-year-old daughter attending Grossmont College. He has played softball several years with Convair teams and once was on a team that won the city championship. In addition to serving as a tillerman on the launch vehicle trailers, he works with both inside and outside cranes at Plant 19.



Alma Dyer, a Convair employe for seven years, is one of six young women employes in the employe services office in Bldg. 8 at Kearny Mesa who processes more than 2,500 insurance claim forms each month. A native of Tennessee, Mrs. Dyer said the forms sometimes are difficult to decipher because of hard-to-read handwriting. Since coming to San Diego, she has attended adult education classes to improve her typing and bookkeeping abilities. She is married and lives with her husband, and 11-year-old daughter, Vicki, and two AKC dachshund dogs, Sam and Susie, on Kearny Mesa. Mrs. Dyer enjoys roller skating and spends part of her spare time keeping books for her husband, who operates his own moving and storage firm. She once worked in a hosiery mill in Tennessee but says she likes her duties at Kearny Mesa better.



The only "glass blower" now in the tube department at Stromberg-Carlson Data Products on Hancock St., Sam Holt, laboratory technician, seals the various glass components of the Charactron tube together. In the above photo he is sealing the electronic gun in the end of the tube on the stand. He started with the Charactron program in 1958, "growing up" with the development of the electronic beam tube, foremost of its kind. He learned the art of working with glass on the job and says he really enjoys the exacting work. Holt first joined the company at Convair division in 1957 and worked a year in F-102 fuselage assembly before transferring to S-C. He and his wife, Norma, and daughter, Bonnie, 16, live in Claremont. Holt's main off-the-job interests are hunting and fishing and the whole family joins in weekend fishing jaunts.



Wayne Norstrom, one of the tunnel operators at the GD high-speed wind tunnel at Convair's Harbor Drive Test Site, will get his 25-yr. pin from Convair this month. He was in flight research and instrumentation for Convair during experimental aircraft programs from 1940 through the jet transport. For several years he had charge of the instrumentation lab. The last 4½ years he has been an engineering development technician at the high-speed wind tunnel and likes the fast pace and variety of tests he's involved with. He lives in the Talmadge area with his wife, Virginia. Their oldest daughter, Nikki, teaches in Alaska, and their other daughter, Jeri, is doing graduate work at San Diego State. Young son Mark, 11, keeps his parents busy with his activities. Norstrom works the night shift often so has little time for recreation.

Calibration Requirements Change To Score Big Savings at Electronics

Reappraisal of calibration requirements at Electronics operation at San Diego will save nearly $400,000 by the end of 1966 with another $260,700 savings in sight through tighter procurement control.

Three cost reduction proposals generated by the calibration laboratory's test equipment control function have changed the approach to calibration of the some 5,000 electronic instruments maintained by Electronics - SD.

C. G. Franklin, who heads the test equipment control and calibration group, explained that a close look over the last several months at the actual calibration demands and applications of the various types of instruments revealed that accuracy could be maintained at a much lower cost.

"Restricting calibration to realistic requirements of each instrument's intended use, instead of calibrating all instruments to the same accuracy and on the same time schedule, has allowed us to put into effect a control system which will save thousands of dollars a month," said Franklin.

Franklin, senior test engineer, reports to W. D. Buniger, manager of engineering support, who has overall responsibility for the calibration laboratory.

Joining Franklin in the intensive evaluation and formulation of proposals were W. J. Connors, engineering assistant, and Ernest Bellantoni, test engineer, also of the test equipment control group.

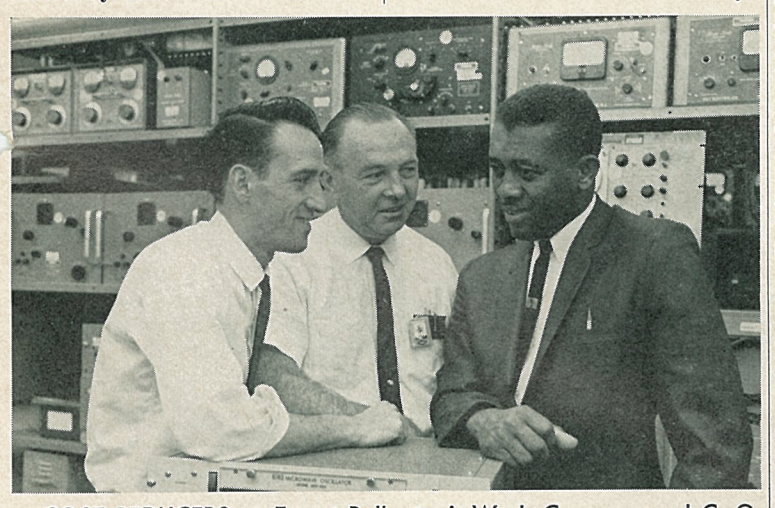
First step in the series of changes calls for selective calibration of 800 instruments which now will be calibrated only to the accuracy required for their individual applications. This will save $57,825.

Second change in procedures is termed conditional use calibration. By flagging 870 instruments with special decals, noting that they are non-data collecting instruments only, $184,254 will be saved. These instruments will be maintained and kept in repair but not calibrated.

Third proposal extends the average calibration interval from every three months to every four months, and will save $151,088 by the end of next year. The extension of the normal calibration cycle coincides with the BuWeps procedure WD-11000 which went into effect at Pomona division early this year after extensive research by both BuWeps Representative's Office there and Pomona division's standards laboratory.

In a cost avoidance move at Electronics - SD, all procurement of test equipment has been centralized within the test equipment control group. Now, all requests for equipment are thoroughly screened before requisitions are issued. The control group checks every possible means of supplying equipment before going to outside purchase. Franklin said that many times equipment can be acquired from the test equipment pool, obtained on loan from other divisions, or perhaps another less expensive instrument may be substituted to provide the same capabilities.

Projected savings from this control alone is expected to amount to $260,700.



COST REDUCERS — Ernest Bellantoni, W. J. Connors, and C. G. Franklin, senior test engineer, all of Electronics-SD test equipment control and calibration group, talk over savings amounting to hundreds of thousands of dollars next year by change of calibration procedures.

It'll Save Life

$10 Survival Kit Recommended For Safety of 'Sunday Fliers'

A Convair flight test engineer became so concerned over the number of needless deaths of "Sunday" fliers who crash-land that he spends most of his free time developing simple safety measures and spreading the doctrine of "know and keep alive" to small-craft pilots.

Bob Brazell of Convair aircraft flight test started three years ago to ferret out main causes of deaths of small-craft pilots and passengers after they had survived forced landings. From this personal research, Brazell has formulated a set of simple, realistic safety rules—based mainly on common-sense—and a $10 survival kit!

"I found that most available survival information is pointed to the military, not the civilian, pilot," said Brazell. "We can blame most fatalities of civilians on their inability to cope with survival conditions. They either do nothing or do the wrong thing. We know of a dozen persons, at least, who died unnecessarily during the year of 1963 while active rescue efforts were under way. Seven died from injuries and five from exposure when they could have saved themselves if they had understood the simplest fundamentals of survival and used resources at hand."

Brazell underlines what he considers cardinal rules of safety: first, always, but always, file a flight plan. Next. when forced down, stay with the plane. Do everything possible to help others locate you. Keep alert and alive!

His survival kit contains the optimum — and minimum — first aid, shelter, and signaling items to take care of an emergency situation through the first 24 to 48 hours. "Most downed planes are located well within two days if they have filed flight plans in advance," he pointed out.

All items in the kit can be purchased at a drug store and packed in a plastic lunch pail.

Conspicuous by their absence are compasses, maps, antibiotics, stimulants, splints.

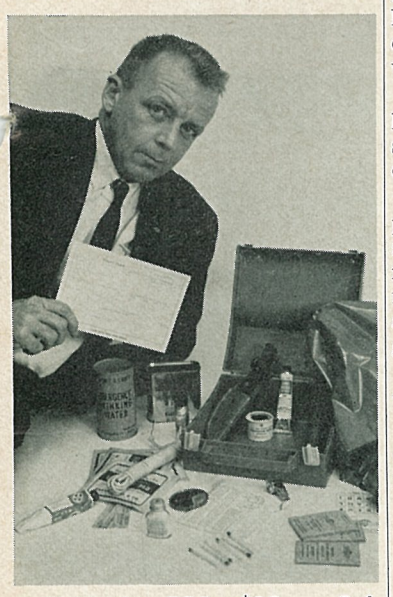
"Compasses and maps only encourage survivors to strike out on their own, where, nobody knows!" Brazell explained. "And drugs might harm more than they would help.

"The plane itself is the best landmark possible, an adequate shelter, and a ready-made supply of splints."

During the years he has been pursuing his special interest, Brazell has talked to many local flying clubs throughout California and makes himself available as far as time permits to any group.

"If one life is saved, it will be worthwhile," Brazell concluded.

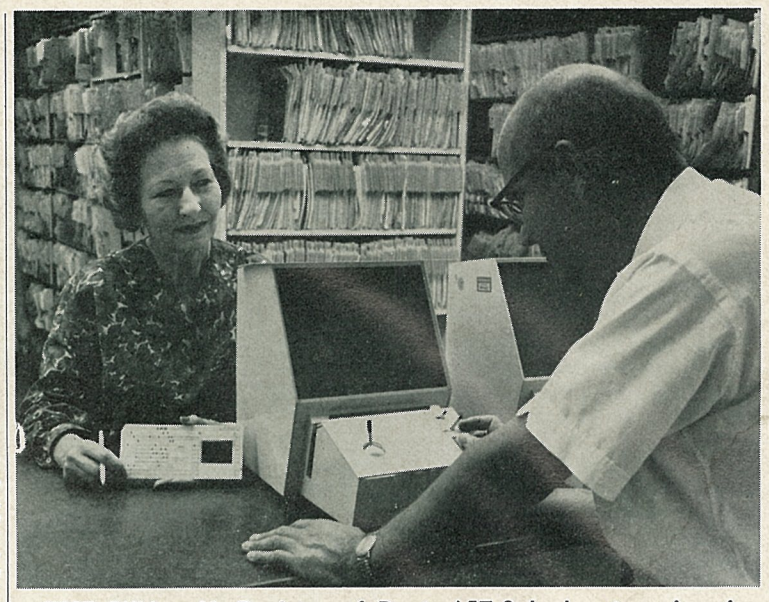
And, he's had that satisfaction already. A letter from a private pilot just last month testified that he had survived a forced landing in the desert by following Brazell's instructions given before a group of fliers in Los Angeles.



SURVIVE FOR $10 — Bob Brazell, Convair flight test engineer, spreads out contents of simple, inexpensive survival kit he has evolved for small-craft pilots. Contents include indispensables such as tin whistle to guide searching parties, mirror for signalling, drinking water. He holds most important aid of all — flight plan.

ROCKHOUNDS PLAN WILEY WELL TRIP

CRA Rockhounds will travel to the Wiley Well area for a rock-hunting jaunt over the New Year's weekend, Dec. 30-Jan. 1. The Convair group will have a chance to search for fire agate, geodes, sagenite, and various types of agate.



TEST RUN — H. D. Jeter of Dept. 657-0 looks at engineering drawing on microfilm viewer at Convair as Lee Fuller, engineering blueprint file clerk, looks on.

Microfilm Used in Trial Test On Certain Engineering Prints

Use of microfilm to replace multiple copies of engineering drawings was begun on a trial basis last month for selected drawings in the engineering blueprint files in Bldg. 33 at Convair's Kearny Mesa plant.

Three viewers and two printers are being used in conjunction with the microfilm cards so engineers may look at a drawing or have a copy made for them on the spot.

Francis Conover, engineering files supervisor, said the new system is working well and eliminates the perennial problem of the last copy of a drawing being checked out when someone else needs it.

Industry studies indicate having microfilm viewers should eliminate the need for almost half the previous check-out requests.

A print, if needed, can be made in seconds from microfilm at nominal cost—less than 2 cents for 8½ by 11-inch prints, 3½ cents for 11 by 17 prints and 6 cents for 17 by 22 size prints.

Conover said volumes of book-type drawings, specifications and procedures will still be kept in book form but single sheet drawings will be microfilmed.

Jack E. Scott originated the idea to cut engineering drawing costs. Bruno Tanonis of Dept. 523-7 and E. H. Boldrick, chief of still photography, did research and assembled information for presentations to key engineering personnel.

Tanonis said use of the system in the Bldg. 33 blueprint files alone should save Convair several thousand dollars per month. A similar system to be used at the Eastern Test Range also is expected to result in considerable savings.

Boldrick said using microfilm essentially is a change from a "flood system" for engineering drawings to a "demand system."

"Before, we tried to estimate the number of copies of a drawing that would be needed and to produce and flood the supply points with more copies than would be needed," he said. "With microfilm, we have one master and copies are made only as needed."

Authorities disagree on how much waste there is under the "flood system" but some estimates are as high as 80 per cent, due primarily to changes making copies obsolete.

Use of microfilm also is expected to cut the time required to get prints of new drawings available for distribution after they have been released by engineering release Dept. 521-6.

Boldrick said microfilm also is being used to store vendor data in the microfilm center in Bldg. 4 at Kearny Mesa.

Device For Cable Manufacturing Designed and Built In-House

Cable manufacturing at Convair has been speeded with installation and proofing of Convair-developed equipment which automatically winds and wraps wires in one operation.

Cables, made by Convair at Air Force Plant 19, are used to support pre-launch checkouts and launch of Atlas and Centaur launch vehicles as land lines for ground support instrumentation as well as control lines to vehicles.

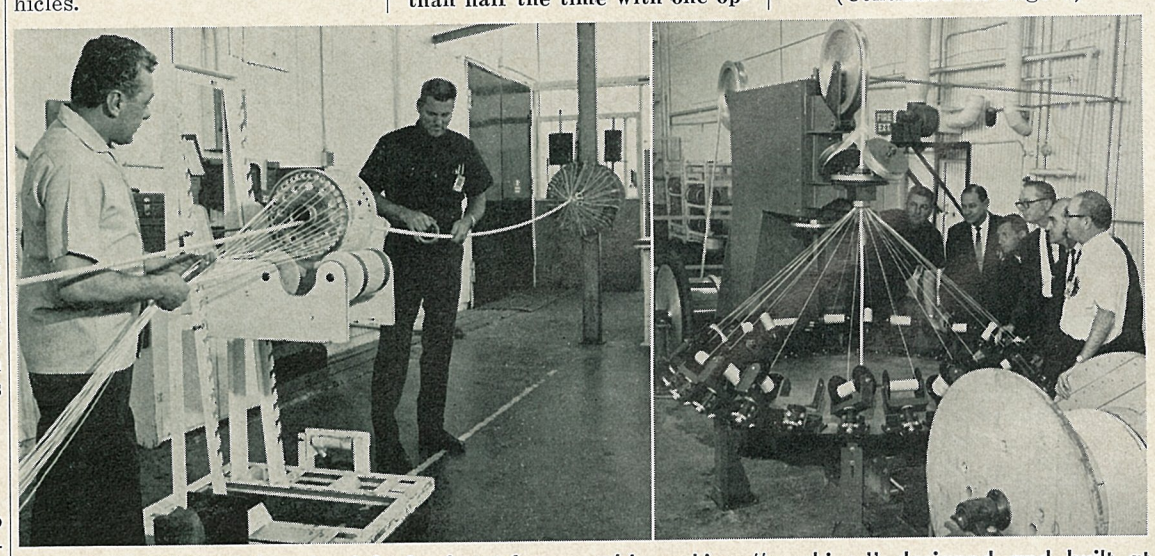
The new cable-spinning equipment replaces the former hand-winding process which used plastic and wooden wheels to hold individual wires apart while spinning concentric lays for the build-up of cable. Each revolution of the group of wires was hand-turned at spaced intervals to accomplish the lay pattern to military specifications.

The same operation, performed automatically, is done in less than half the time with one operator at the controls.

The new equipment has been many months in design and development since H. H. Moran, electronic assembler, initiated the concept some two years ago. Machine design was created by George Volmer of tool design with assistance from K. E. Fountain, tool engineer of the tool project group.

The automatic cable-making equipment consists of a variable-

(Continued on Page 6)



OLD — AND NEW — At right is shot of new cable-making "machine," designed and built at Convair to wind and wrap wires automatically in one operation. H. H. Moran, electronic assembler, explains operation to (from left) Clyde Medearis, AF Plant 19 plant administrator for Convair; K. E. Fountain, tool engineer; C. C. Pope, assistant tool project engineer; R. R. Sodomka, assistant supervisor tool design; A. H. Leboffe, assistant foreman cable manufacturing. In photo at left Tom Tomaselle and Moran demonstrate former tedious hand-winding process using plastic and wooden wheels to hold individual wires apart.

Electronics-SD ZD Award Won By Laboratory

(Continued from Page 1)

analysis, marketing, quality control, design engineering, research and advanced technology engineering, planning and control.

These areas will be judged on quality and quantity of work as fairly as possible, said Kent Sinclair, manager of quality control and chairman of the Zero Defects committee. He pointed out that, as far as he is aware, the Electronics-SD Zero Defects program is one of the first to draw non-manufacturing functions into the contest.

"We realize that it is more difficult to judge non-manufacturing areas than it is to evaluate production sections which turn out hardware. However, we hope to be able to establish a fair and equal base for evaluating performance of all functions. Now, we are looking closely at efficiency of performance of all of our departments, no matter what their products or services might be."

Sinclair meets with the ZD committee once a week to review quality and inspection reports and operations' quality index reports issued weekly. Material is compiled from daily production quality reports which record number of rejects and amount of time required for rework. Winning departments are chosen by number of defects per assembly and number of defects per 100 shop hours throughout the quarter.

ZD banners will remain in the winning areas until the next awards and all employes in the top sections are treated to cigars and candy on award day.

Besides Sinclair, the ZD committee is composed of representatives from all Electronics functions: J. W. Crooks, senior staff specialist, acting as special adviser; R. F. Martin, supervisor of quality assurance, representing quality control and acting as vice chairman of the committee; Norm Ernst, administrative assistant to the chief engineer, design engineering; Vince Finley, personnel engineer, industrial relations; Jack Skimmins, REINS assembly foreman, operations; Ernest Stelmar, senior cost estimator, estimating; Jack Larson, budget analyst, cost and price analysis; J. D. Cook, engineering planner, research and advanced technology engineering.

Cable-Making Device Installed at Convair

(Continued from page 5)

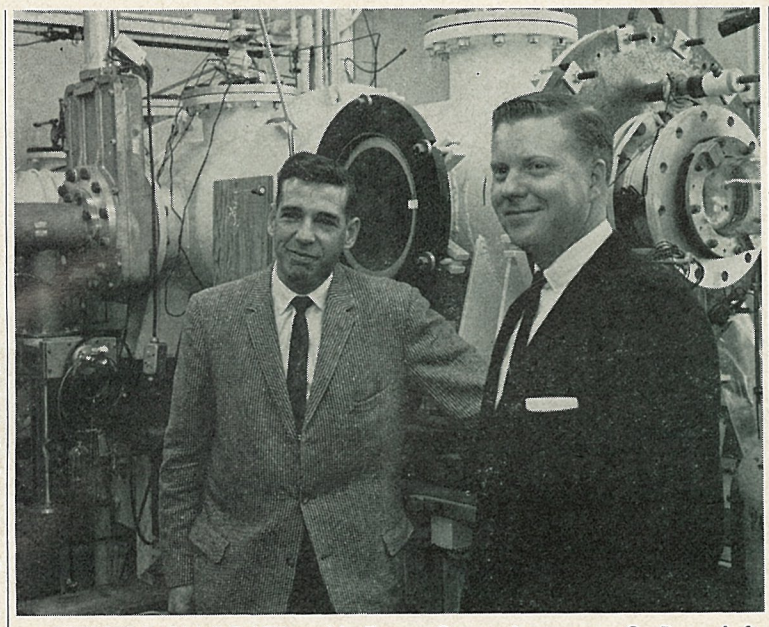
controlled electrical-driven turntable. Up to 24 reels can be positioned on the turntable at one time. As the bed is automatically rotated in full circle, multiples of electrical conductors are precisely wound and wrapped with Mylar tape into cable cores.

The cable-maker has been designed to use standard purchase pre-wound reels of wire, 1,000 to 5,000 ft. in length. It can handle any size from a 24-gauge single conductor to multiple groups forming cable up to two inches in diameter.

"We now can turn out more than twice the amount of cable in the same amount of time," said A. H. Leboffe, cable manufacturing assistant foreman. "Too, cable made on the new equipment is more uniform and of a more consistent quality to comply with military requirements."

Although similar equipment is on the market, Convair's is built vertically instead of horizontally, as most other such machines. Such devices stretch lengthwise as far as 200 feet, while the Convair equipment occupies an area only 25 feet square.

W. D. Reed, manager of production engineering, said that Convair's device was fabricated in-house for about a third of the cost of a purchased item! Equivalent machinery of this type would cost in the neighborhood of $30,000 on the commercial market.



OFFICERS ON BOARD—Air Force Capts. Lawrence G. Russ, left, and William G. Kluck have been assigned to Convair for studies in "Education With Industry" program. In background is hypersonic low-density wind tunnel.

Air Force Officers Report For Tour of Duty at Convair

Two Air Force officers, Capt. Lawrence G. Russ and Capt. William G. Kluck, have recently been assigned to Convair division for a course in industrial planning and procurement under the Air Force Institute of Technology's "Education With Industry" program.

Two other Air Force captains, Harry L. Arthur and Frank M. Hilbish, have been enrolled in the course since September at the Kearny Mesa division. The course is coordinated by educational services, Dept. 130-3.

Russ, a 1954 graduate of the U. S. Naval Academy, recently has been stationed at Kirtland AFB, Albuquerque, N. M., as a radar navigator-bombardier on B-52s and B-47s. He previously had duty assignments in England and Germany.

Kluck, a native of Nevada who attended Kentucky Military Institute in Louisville and was graduated from San Diego State College in 1958, previously was assigned as chief of the base procurement division at Williams AFB, Phoenix, Ariz. He earlier had served as assistant chief of the base procurement division at Vance AFB, Enid, Okla.

Kluck's father, Chester L. Kluck, previously was employed at Convair for several years in planning and estimating on Atlas, Azusa and other projects.



COMPUTER POST—Young people of Computer Explorers Post 205, sponsored by Convair Management Club, watch Ray Elliott (at control console), design specialist in Convair digital computer lab; G. O. Withem (in foreground), general supervisor of data systems; and Vic Baros (standing in center background), assistant computer group engineer in analog computer lab, demonstrate operation of IBM 7044 computer in Kearny Mesa plant's computer facility.

Mgt. Club Sponsoring Course In Computers For Teen-Agers

Convair has joined other large companies throughout the country in introducing young people to the electronic age by holding regular computer classes for a group of San Diego teen-agers.

Thirty-five high school students, as Computer Explorers Post 205, started exploring the field of computers and computing at the Kearny Mesa plant last month under the auspices of Convair Management Club.

The post, formed by the club last year, meets twice a month at Kearny Mesa to learn from Convair computer specialists something of the impact of computers on today's technically-oriented society and how computers can be applied to solve business and academic problems.

High school students are recommended for membership in Post 205 by school counselors on the basis of interest in science of computers, and the ability to carry extracurricular activity.

Subject matter covered by Post 205 is centered around computers used in the aerospace industry, on the premise that computer training enhances student interest in, and appreciation of math and science, and helps provide academic direction and application.

Digital and analog computer topics covered in 16 sessions will include computer language, memory, arithmetic operations, computer communication, programming, problem-solving, and operations using combined digital and analog computers.

Convair advisers for Post 205 are G. O. Withem, unit leader; V. J. Baros, technical committee chairman; W. J. Schart, A. B. Farnell, G. H. Burgin, R. A. Elliott, G. A. Cooper, Roger Moore, John McKay, Hal Pietsch, and Jack Croft. Management Club sponsorship is monitored by L. J. Solheid and Paul Gelles.

340/440 Conversion, 'Convair 640' Awarded FAA Type Certificate

Convair's 340/440 version of the Convair-Liner converted to turboprop power with Rolls-Royce Dart engines, now known as the Convair 640, has been granted a supplemental type certificate by the Federal Aviation Agency.

The certificate was granted early this month after an extensive flight test and qualification program conducted by FAA and Convair at San Diego and Edwards AFB, Calif.

A supplemental type certificate was granted to the 240 version, the Convair 600, last month.

Ten of the new Convair 600 aircraft are being converted to turboprop power for Central Airlines, and 25 Convair 600s for Trans-Texas Airways. Eighteen of the new turboprop-powered Convair 640 aircraft will be operated by Hawaiian Airlines, Caribbean-Atlantic Airlines (Caribair), and Martin's Air Charter, Amsterdam, The Netherlands.

Conversion of the aircraft for Central, Hawaiian, and Caribair is being done at the Convair Service Center at San Diego. Conversion of Convair-Liners for Trans-Texas is being done by that airline at Houston, and Martin's Air Charter will use Aviolanda in Holland for conversion of its aircraft.

Central Airlines inaugurated Convair 600 passenger service the last day of November at Fort Worth, Texas. The flight was to St. Louis, Mo., with a scheduled stop at Fort Smith, Ark.

Registration Dates Set For In-Plant City College Classes

Registration for SD City College courses to be held at Convair plants for the spring semester will be held from 3:30 to 5 p.m. Jan. 10 through 13 at Kearny Mesa and Jan. 10 and 11 at Lindbergh Field.

Courses to be offered are introduction to digital computers, computer logic and circuitry, calculus for electronics, mathematics for electricity and electronics, introduction to technical writing, advanced technical writing, effective supervision and blueprint reading.

Most of the courses will be held from 5 to 8 p.m. beginning the first week in February. The effective supervision course will be given only at Kearny Mesa and the blueprint reading course only at Lindbergh Field.

Course descriptions and application forms may be obtained at educational services. The registration will be in Room 2 of Bldg. 17 at Kearny Mesa and Room 8 of Bldg. 14 at Lindbergh Field. No late registrations will be accepted.

Further information can be obtained from Dick Forrest at Kearny Mesa, ext. 1931, or Wayne Turner at Lindbergh Field, ext. 491.

Check Your Pay Stubs For Accurate Data

Convair employes are reminded that all changes of home addresses should be turned in immediately so that W-2 forms which must be included with federal income tax returns will not go astray.

J. L. Terrien of Convair payroll section said that paycheck stubs should be checked now to see that addresses and social security numbers are listed correctly. Changes in addresses may be made on forms available at all time clocks. Discrepancies in social security numbers should be reported to the employment section at once.

Paychecks distributed Dec. 29 to both hourly and flat-salaried employes will be the last amount included in 1965 wages.

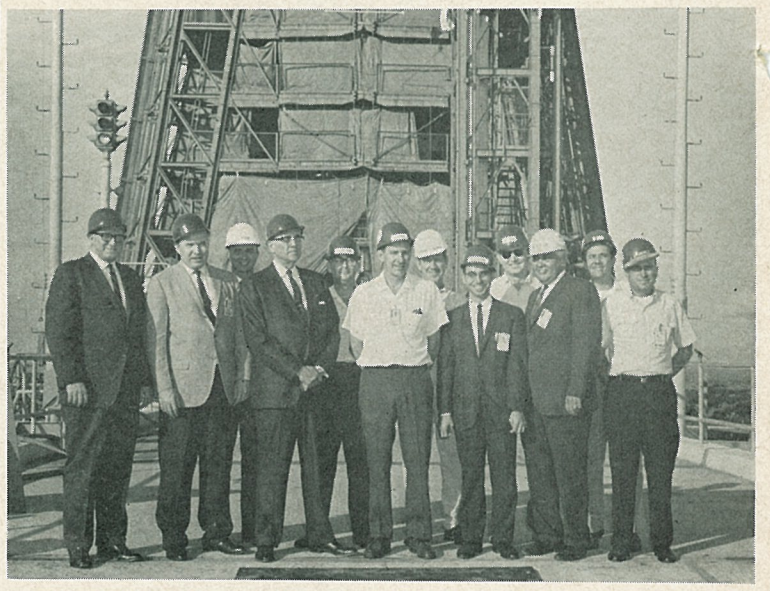
Grayce Fath of GD/NEWS Staff, Veteran Of Nearly 30 Years' Service, to Retire

Grayce Holm Fath, who joined Consolidated Aircraft (later Convair) June 15, 1936, when there was only one building at the San Diego plant and bay waters covered much of what is Lindbergh Field today, will retire at the end of this month.

Payroll at the plant, which had moved from Buffalo only a year before, was approximately 2,500. Within a few years this figure jumped to a wartime peak of 45,000.

Mrs. Fath was in the employment office during this period and as hiring of women increased at a rapid rate she became assistant personnel director, supervising their employment and working conditions, etc. At one point, women made up 42 per cent of the work force!

In 1943 Mrs. Fath was transferred to industrial relations on the Corporate level of what was then Consolidated Vultee and five years later was assigned to the staff of the newly-created companywide newspaper, Convairiety, subsequently renamed General Dynamics NEWS to better reflect the paper's multi-division role. During her more than 17 years' service to the paper she has been a key staff member. She is being succeeded in GD/NEWS office duties by Jack Isabel, formerly of Convair division safety section.



CAPE VISITORS — International IAM officials touring Complex 12 at Cape Kennedy recently with Convair personnel are, front row (from left), Floyd Smith, IAM international vice president; W. J. Usery, IAM grand lodge representative; P. L. Seimiller, IAM international president; O. H. Reed, Convair site manager, Complex 12; B. A. Kulchin, Convair chief of industrial relations, ETR; F. E'Dalgo, IAM special representative; J. A. Jones, Convair, IAM Lodge 610 recording secretary. In back row (from left) are K. R. McCabe, Convair labor relations representative, ETR; J. A. Matthews, IAM Lodge 610 vice president; F. G. Sturgill, Convair, IAM committee chairman; J. F. Dean, IAM Lodge 610 president; G. F. Gabler, Convair, IAM Lodge 610 financial secretary.

Navy Office 'Neighbors' Move After 30 Years

A close direct Navy-Convair relationship extending over three decades has been brought to a close with closing of the Bureau of Naval Weapons Representative's office at Lindbergh Field last month.

Cdr. Roy A. Evans, who had served the past 2½ years as Bureau of Naval Weapons representative with offices in Bldg. 1 at Lindbergh Field, has been reassigned as chief of the Defense Contract Administration Services District's new San Diego office in Bldg. 4 at Air Force Plant 19.

Evans and his staff are to administer defense contracts for all branches of the military services with all firms in San Diego and Imperial counties with the exception of Convair contracts.

The office of Col. James R. Ourand, Air Force plant representative at Convair, also is to become a DCAS office early next year for administration of Convair defense contracts.

Both the offices of Evans and Ourand will come under direction of a DCAS regional headquarters in Los Angeles as a part of the Defense Supply Agency organizational structure.

Evans' new office was commissioned in ceremonies early this month with Maj. Gen. William Veal, director of DCAS from Cameron Station, Va., present.

The Navy established its Bureau of Navy Weapons representative's office at Convair in 1933 and the office for several years was located in Bldg. 19 on Pacific Hwy. Evans succeeded Capt. Glenn Oakerson as representative in 1963.

During its operation, the office accepted into Navy inventory the PBY Catalina series of aircraft, the PB2Y Coronado, the PB4Y Liberator, the XFY Pogo, the F2Y Sea Dart, the R3Y and R4Y transports and administered numerous other product, research and development contracts.

Evans, in a letter to Convair, has expressed "sincere appreciation for the cordial and harmonious business relationship" which has existed between Convair and the Navy office during the 30-year period.

Jack L. Bowers, Convair general manager, in a letter to Evans, expressed on behalf of the entire division "the somewhat nostalgic feeling evoked by the closing of the office."

Bennie Grondona, who had been chief engineer with the Bureau of Naval Weapons representative's office, now is deputy chief of the new DCAS district office.

Retain Convair Airplane Data

Convair offices, especially those at Lindbergh Field plant, clearing their files of obsolete material are urged to contact J. B. Harter of Convair modification engineering before discarding data on Convair planes which might prove valuable in the future.

Harter, who maintains files of engineering data and drawings of F-102/106s and both two and four-engine Convair transports in support of service parts and customer service, says that all reports and studies on these planes during development and production are still valuable and in demand.

There are even calls for engineering drawings of cancelled parts or partially-completed designs, which for some reason, were discontinued during the various aircraft programs. Materials such as samples of upholstery, moldings, etc., used in Convair planes are kept for matching when service parts receives such orders from airlines.

Also, historical data about Convair division and all Convair-built planes is needed to complete files. Anyone with brochures, photos, information of any kind, is asked to call Harter.

He may be reached at ext. 1570 or 1580, Lindbergh Field plant.

500 ESs Submitted In Contest Period

Approximately 500 Employe Suggestions were received during a recent five-week contest period. Four of the contest winners are to be taken to Vandenberg AFB to watch the firing of an Atlas.

E. D. Heller, Convair manager of cost reduction and value engineering, said 41 per cent of the first 150 suggestions processed have been approved. Some employes submitting multiple suggestions have had as many as four suggestions approved to date.

Contest winners will be named early next year after processing is complete.

Pistol Shooters Win 'Luck' Event Turkeys

Bill Worthington and Roland Schneider took home the turkeys from CRA Pistol Club's Christmas shoot on Dec. 12. They topped the "luck" event.

In regular club competition Warren Ranscht took the master class of the .22-cal. Police Course with a 294. Don Smock was close behind with 292. Worthington shot 277 to lead expert class. Curtis Greeley was runner-up with 276.

In .45-cal. Short National event, J. S. Knutson was first, 275; Joe Williamson, second, 262; Schneider, third, 257; Jim Halfacre, fourth, 256.

There will be no Pistol Club shoot at the SD Police Range on Jan. 9. Next scheduled shoot will be the fourth Sunday of the month (Jan. 23).

Winners Announced For Bridge Events

Lucille Donan and H. H. Johnson took north-south honors and Mitzi and Bob Rustad, east-west honors, at CRA Bridge Club's Nov. 26 Harvest party.

Dec. 10 monthly Master Point competition winners were Jim Stephenson and Al Buggele for north-south, and Stella Christy and Wayne Evans, east-west.

No bridge events are scheduled for Christmas Eve or New Year's Eve. A new winter series will begin next month with monthly Master Night competition set for Jan. 7.

Marge Gibson Sinks Tee Shot Four Times

Marge Gibson of the GD Women's Golf Club started the year observing national holidays by shooting holes-in-one. She ran out of holidays, but not aces!

So far this season the lucky lady (husband, Louis, in Dept. 403-3) has sunk four! Her first was Feb. 22 (Washington's birthday) on the sixth hole at River Valley course. Her next was on St. Patrick's Day, 13th hole of Mission Bay course. Her third and fourth were June 9 (day before her birthday) and Dec. 1, both at Mission Bay.

She may not be through yet. With a couple of shots on the big holidays to come, she could make it an even half-dozen!

Workshops Closing, To Reopen in Jan.

Rockhound workshops and lapidary instruction at both Gillespie Field and Kearny Mesa closed this week until after the holidays.

The CRA workshop at the Kearny Mesa Clubhouse will reopen on its regular schedule Jan. 3. Rockhound shack at Gillespie Field will be open on Jan. 5. It will continue on the usual Wednesday night schedule, 7-9 p.m.

Work nights and instruction at CRA Clubhouse, Kearny Mesa, are Mondays through Thursdays, 7-9 p.m., and Saturdays, 10 a.m. to 5 p.m.

ADVENTURERS PLAN JAUNT TO MEXICO

CRA Adventurers will explore a land of mystery in Sonora, Mexico, over the year-end holidays when they drive to the Pinacate region, some 280 miles from San Diego.

The Convair group will set up a desert dry camp near Sykes and McDougall craters, off Mexico Hwy. 2, from Dec. 30 to Jan. 2.

Rendezvous will be 2 p.m. Thursday (Dec. 30) approximately 80 miles east of San Luis.

Commissioner Dick Bowen said that this area, known for the last century as the Pinacate region, has been the source of many fantastic stories about natural wonders, lost missions, ancient cultures, and incredible hardships.

"Lava flows from extinct volcanoes have spilled raggedly in every direction for 15 to 20 miles. These flows are punctuated by hundreds of small cones and craters, hundreds of feet deep and approximately three miles around."

Everyone planning to make the trip is reminded to carry plenty of water. Tourist permits are required. Trip leader is Ray Madden. Joe Quijada, assistant trip leader, home phone 284-0883, will give details.

Teen-Age Drill Team Parades

Convair colors flew in two San Diego holiday parades when CRA Riding Club groups appeared to represent the company and the recreational activity.

The club's teen-age drill team riders, attired in red vests, white shirts, red hatbands, and red saddle pads which they had made themselves, rode in the Old Town Christmas parade Dec. 12, and three fathers were a part of the La Jolla parade on Dec. 10.

Drill team members are Charlann Harmer, Jan Kreis, Sheila Payne, Gail Dvoracek, Davy Watson, and Mike De Leonardo.

Adult riders in the La Jolla Dec. 10 parade were Conrad Nash, club president; Boyd Spencley, and David Watson.

Riding Club members met last Friday (Dec. 17) at the Campus Chuck Wagon for their annual Christmas party and award of high-point trophies.

Wives Club Gathers Needy Family Gifts

Generosity of Convair Wives' Club will provide an ample Christmas dinner and food for days to come for a needy family, assigned by the Salvation Army.

Wives have donated at least 150 items of canned goods and staples, besides cash, to the Christmas "basket," which will be delivered to the family, a widow and her two daughters, before Christmas Day.

The club's treasury is buying a turkey, fresh fruits and vegetables.

Final collection for the project was made at the Dec. 15 luncheon in the La Jolla Beach and Tennis Club's Marine Room. No other activity is set for the club this month. Next luncheon will be Jan. 19 at the Red Coat Inn.

Reiter and Davis Top Golf Tourney

Winners in this month's CRA golf tournament at the Circle R course were:

Flight 1 (0-12 handicap) — Al Reiter (Dept. 015), first low gross, 75, and Russ Davis of Dept. 002, low net, 66.

Flight 2 (13-14 handicap) — Pete Molis (Dept. 759), low gross, 81, and Bill Kenney (Dept. 964-2), low net, 67.

Flight 3 (15-18 handicap) — Ed Kerfield (Dept. 031), low gross, 86, and Clinch Crocker (Dept. 191), low net, 68.

Flight 4 (19-and-over) — George Zecca (Dept. 523-6), low gross, 89, and Jack Backstrom (Dept. 761), low net, 68.



CHRISTMAS GIVING — Convair Wives start packing huge Christmas basket of food which will go this week to club's "adopted" family. From left are Vera Whitbey; Jean Beatty, club president; and Margaret Brock. Mrs. Whitbey and Mrs. Brock head committee for project.

CRA Calendar

(For information on CRA activities call CRA Headquarters, Kearny Mesa, ext. 1111. Deadline for copy for the next issue of GD/NEWS is noon, Jan. 5. Call ext. 3322, Kearny Mesa.)

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ADVENTURERS—New Year's trip to Sykes and McDougall craters, Sonora, Mexico, Dec. 30-Jan. 2. Call Joe Quijada, 284-0883.

BADMINTON — Weekly play Mondays, 7-10 p.m., Federal Bldg., Balboa Park.

BASKETBALL — Shop league play cancelled this week and next because of holidays. Games resume Wednesday (Jan. 5) and Saturday (Jan. 8), Muni Gym, Balboa Park.

BONAIR FLYERS — Meeting Jan. 4, CRA Clubhouse. Election of officers.

BRIDGE — No play Dec. 24 and 31. Master Point night Jan. 7, CRA Clubhouse.

CERAMICS—Instruction Tues., Wed., Thurs. evenings, 7:30-10:30 p.m.; Wed. mornings, 10 a.m.-1 p.m., CRA Clubhouse.

DELTA DIVERS — Meeting Jan. 12, 7:30 p.m., CRA Clubhouse.

FENCING — Workouts and instruction Fridays, 7:30-10:30 p.m., YWCA, 10th & C Sts.

GARDEN CLUB — Next meeting Jan. 5, 7:30 p.m., Floral Association Bldg., Balboa Park.

ICE SKATING — GD skate night Thursdays, 6:15-7:45 p.m., Mission Valley Ice Arena.

PISTOL CLUB — Jan. 9 shoot cancelled. Next club shoot Jan. 23, 9:15 a.m., SD Police Pistol Range, Federal Blvd. and Home Ave.

ROCKHOUNDS — New Year's field trip to Wiley Well area Dec. 30-Jan. 1. Rockhound lapidary workshops closed through holidays. Workshop at CRA Clubhouse, Kearny Mesa, reopens Jan. 3. Rockhound shack at Gillespie Field reopens Jan. 5.

SCULPTURE — Workshop sessions Mondays, 7:30-10:30 a.m., CRA Clubhouse.

SKI CLUB — Year-end ski trip to Mammoth Mt. over New Year's weekend. Call Joe Harris, 284-0278. Next meeting Jan. 4, Catamaran Hotel, 8:30 p.m.

SPORTS CAR CLUB — Next meeting Jan. 12, 7:30 p.m., Convair executive dining room, Pacific Hwy.

TOASTMISTRESSES — Serra Mesa Toastmistresses meet first and third Mondays, 7:30 p.m., CRA Clubhouse.

WIVES CLUB — Next luncheon Jan. 19, Red Coat Inn.

Flyers to Elect, See Movie Jan. 4

Bonair Flyers will elect officers and view a movie on airplane flight principles at their Jan. 4 meeting, 7:30 p.m., CRA Clubhouse.

The Shell Oil Co. film, "How an Airplane Flies," will demonstrate list, drag, thrust and forces, stability and control.

CRA fliers have chosen their design for club insigne, featuring a red bi-plane on a white background with "Bonair Flyer" in blue.

JUNIOR RIFLEERS COLLECT PRIZES

Six Junior Rifleers competed in the Southern California Junior Rifle League's 50-yard international union-type small-bore rifle tournament Dec. 4 at Camp Pendleton and came home with awards including a silver cream-and-sugar service set, a group of medals and a plaque.

Richard Ellis placed second in master class prone competition, second in master kneeling competition and fourth in master standing position to take first place in the master class.

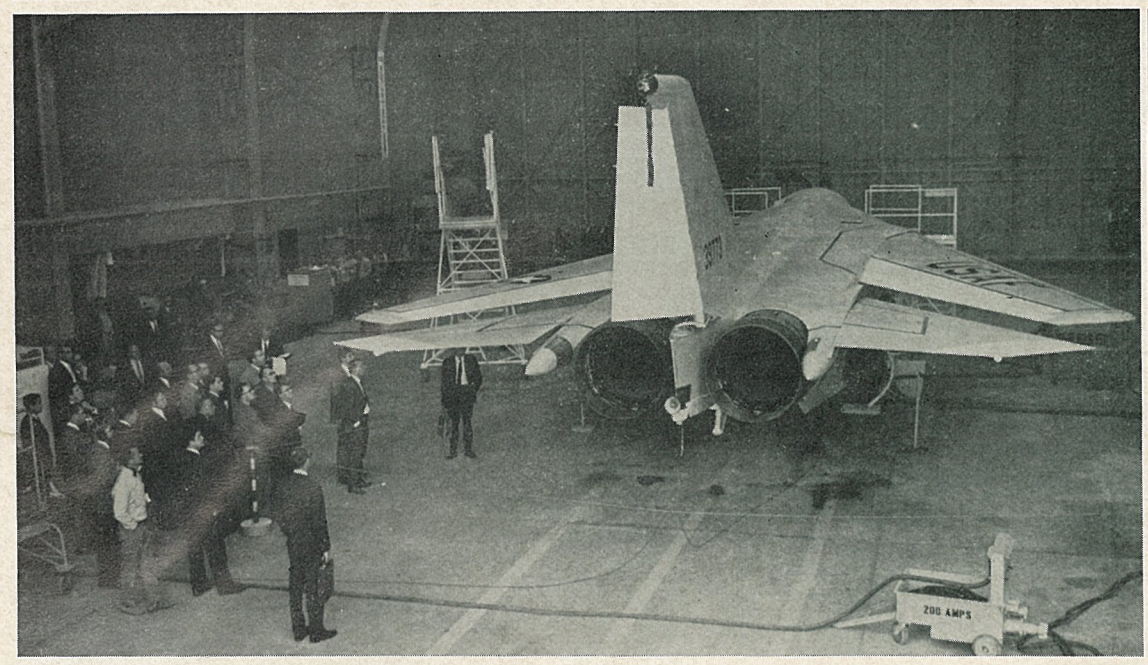
Ellis and John Dawson teamed up to win the team event and received medals and a silver and black plaque.

Shelley McGregor placed second in prone and fourth in kneeling and standing competition, giving her a fifth place medal in the grand aggregate. She teamed up with Karen Miller for team matches. Dave Farrelly Jr. and Robert Eaton made up the third team.

Coaches were Ivus Ellis, Al Eaton and Laura Farrelly. There were 94 competitors.

David Farrelly Sr. of Dept. 572-1 said most of the junior team members were firing for the first time on the ISU target, which has smaller scoring rings than the NRA standard target and some were firing for the first time on the Camp Pendleton range.

"In the past year, these junior riflemen have come up from being 'just competitors' to consistent medal winners against tough Southern California competition," Farrelly said. "Convair should be proud of them."



PRESS CORPS—British writers were at Fort Worth division in force recently for F-111 briefing by President Frank W. Davis. Tour included low-level flybys of variable-wing fighter.

Social Security Tax Deduction to Climb

General Dynamics' employes are reminded that an increase in federal Social Security taxes (FICA) will be reflected in paychecks distributed in 1966.

Social Security withholdings in 1966, including Medicare allocation, will be increased to 4.2 per cent of the first $6,600 from 3.625 per cent of the first $4,800. This means the maximum deduction will be increased from $174 to $277.20.

California disability insurance deductions will be 1 per cent of the first $7,400 earned in 1966 or a maximum of $74. The base on which the deduction is computed was increased from $5,100 to $7,400 on Aug. 1, 1965.

MacNabb Will Serve On Civic Committee

B. G. MacNabb, manager of operations for the Convair division at Eastern Test Range, Kennedy Space Center, has been appointed to a Citizens' Advisory Committee for a new state university to be established in the central area of Florida.

MacNabb's appointment was announced by Woodrow J. Darden of the Florida Board of Regents. The citizens' committee of business and professional leaders is to serve as a nucleus of civic support for the new institution.

Eleven Electronics Men Issued Patents

Eleven employes of Electronics division have recently been granted patents by the U. S. Government Patent Office.

Dr. John Bouyoucos headed the list with two patents, both in the field of hydroacoustics. Joseph Stillwater received a patent which will be used in the production of the division's single sideband radio equipment.

F-102s Score in Attacks With Missiles, Rockets

Convair-built F-102 jet interceptors are raising havoc with the Viet Cong hiding in free-strike zones in Viet Nam, according to a recent article published in the Air Force Times.

"We often see the Viet Cong run like crazy when they spot the delta-shaped F-102 because we're the only ones who consistently hit in the free-strike zones," Major Milt Beers, commander of Det. 2 and 3, 509th Fighter-Interceptor Squadron, was quoted recently in Air Force Times.

According to the Times account, he went on to say that the F-102 pilots stand alert day and night, scrambling against any aircraft that appear to be moving against the borders of South Viet Nam. "In addition, we often fly against the Viet Cong both in the free zones and in other areas where the province chief has asked for air support," he continued.

Major Beers credits the F-102 weapon systems — infrared heat-seeking missiles, radar-guided missiles and rockets—with the craft's effectiveness.

"With these systems," he explained, "we can do anything any other jet fighter can do, and probably do it better, because of the advantage of the guided missile over a rocket that depends on the angle of attack by the aircraft while firing."

According to statistics in the AF Times, the squadron flattened 106 buildings, damaged 59 others, sank 16 sampans, and destroyed one bridge during 199 sorties in a 45-day period. They also noted a secondary explosion when one of their rockets touched off an ammunition dump.

Stromberg-Carlson to Design Community Antenna Systems

Stromberg-Carlson has been awarded a contract to finance, engineer and furnish three Community Antenna Television (CATV) systems for use in Alabama.

The contract was awarded by West Alabama TV Cable Co., a subsidiary of Alabama Telephone Co. of Fayette, Ala. The new CATV systems will serve subscribers in Sulligent, Winfield and Vernon, Ala., according to Stephen W. Vaughan, president of West Alabama TV Cable Co.

Alabama Telephone Co. operates 16 XY telephone exchanges manufactured by Stromberg-Carlson in Alabama communities they serve. In many of these communities, Vaughan said, West Alabama TV Cable Co. now has franchises to provide CATV service. The company already operates a CATV system in Hamilton, Ala.

The new CATV systems will make five channels available to Sulligent and Winfield and six to Vernon. Towers 200 feet high will be erected at the three locations for mounting the highly selective antennas to pick up channels from Columbus, Miss., Birmingham, Ala., and Tupelo, Miss. Vernon will also pick up a channel from Meridian, Miss.

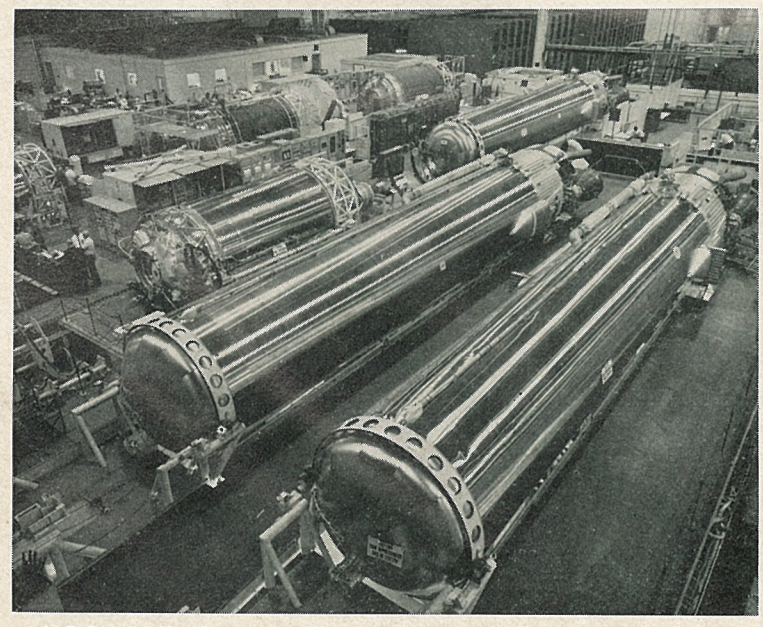
Stromberg-Carlson entered the CATV field earlier this year in association with Entron, Inc. of Silver Spring, Md.

At the three Alabama locations Stromberg-Carlson is furnishing not only the antenna array, but also the equipment and coaxial cable that will carry the signals from the antenna and distribute them throughout the communities.

CATV systems receive television signals off the air by use of a complex array of antennas at a carefully selected site. Coaxial cable carries the signal from each antenna down the tower to the head-end building at the foot of the tower. Head-end equipment is mounted on racks inside the building and includes a wide variety of electronic equipment.

All signals, after amplification, are combined in an electronic mixer and fed to a coaxial cable called the trunk-line cable which carries the signals to the service area. Amplifiers are installed at specified intervals to compensate for signal loss.

A CATV system can provide as many as 12 TV channels, plus FM, thus making available more distant channels with a better range of programming and assuring good color reception. Channels can be provided for weather reporting and other services.



MOON LAUNCHERS — Atlas and Centaur vehicles to carry Surveyor spacecraft into trajectory for lunar landings are shown in Bldg. 5 at Convair's Kearny Mesa plant in photo by Henry Kierstead. From bottom of picture and from left to right are launch vehicle 291-D for AC-11 launch, launch vehicle 194-D for AC-9 launch, Centaur for AC-8 launch and launch vehicle 184-D for AC-8 launch, and Centaur vehicles for AC-11, AC-9 and AC-10 launches. (Only a small portion of end of Centaur for AC-11 is visible.)

Reactions Studied

Pilots in Simulated Spacecraft Exposed to Artificial Gravity

Twenty-four Navy jet pilots and flight instructors this month are undergoing head motion and performance studies in a simulated spacecraft environment at Convair division's Kearny Mesa plant.

The program will help determine how instruments should be arranged in space stations of the future that will employ artificial gravity.

The Miramar NAS flyers have been undergoing performance tests in the Manned Revolving Space Station Simulator (MRSSS), a 14-by-8-by-7-ft. room spinning at a 45-degree angle from one of the 20-ft.-radius arms of the Air Force-owned CEVAT centrifuge.

The motion simulates a form of artificial gravity that would be present in a craft spinning in space.

Flyers are strapped in a Coriolis chair inside the simulator as it spins at 12.4 revolutions per minute. Positioning the chair, built to tilt at a 45-degree angle, enables physiologists to study reactions when backbones are at various angles to the plane of spin.

Experiments are being conducted by Convair under a one-year study contract from NASA's Manned Spacecraft Center in Houston. They are part of a program to obtain information on man's ability to adapt to a whirling environment if it is determined that space stations will require gravity to overcome problems of prolonged weightlessness.

Dr. Bernard D. Newsom, Convair senior staff scientist, is program manager and James F. Brady is assistant program manager for life sciences Dept. 592. Both are environmental physiologists.

Ed Harrs of Dept. 578 is centrifuge operator and B. M. Gipson of Dept. 756 is centrifuge room technician.

The Logical Inference Tester (LOGIT), designed by Dr. R. S. French of Dept. 592, is used in testing performance. The subject, after seeing a "go" light, turns his head in a specified direction and presses 20 buttons on the LOGIT within 15 seconds in a pre-programmed order. Lights on the panel indicate when a mistake is made so the subject can react accordingly. The total buttons pressed and errors made indicate the disorientation resulting from the head motions.

Changing the position of the Coriolis chair in the MRSSS makes it possible to test 24 different sequences of head-movement angles in relation to the plane of spin in order to determine whether horizontal or vertical movement in the plane results in better performance. Each individual is tested in a different sequence of combinations.

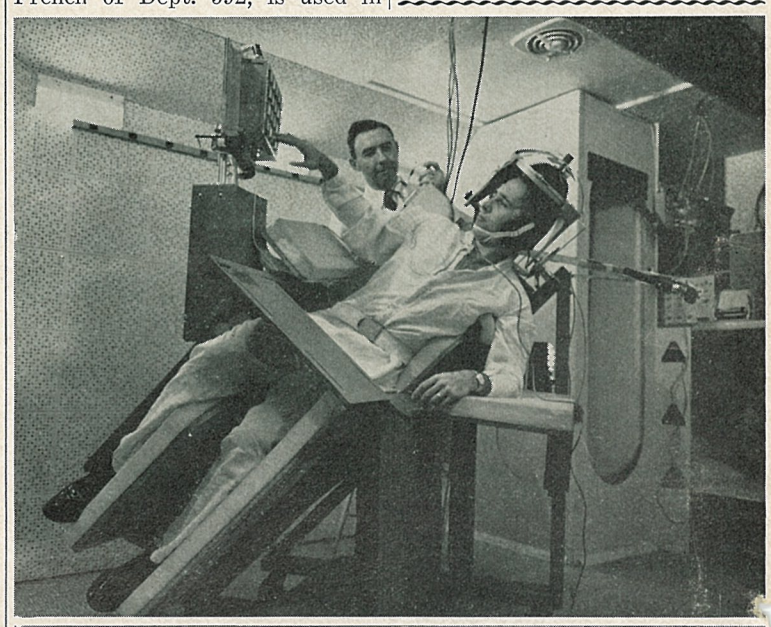
Each pilot is spending three hours at Convair with 1½ hours in the revolving simulator. Newsom and Brady take turns riding with them.

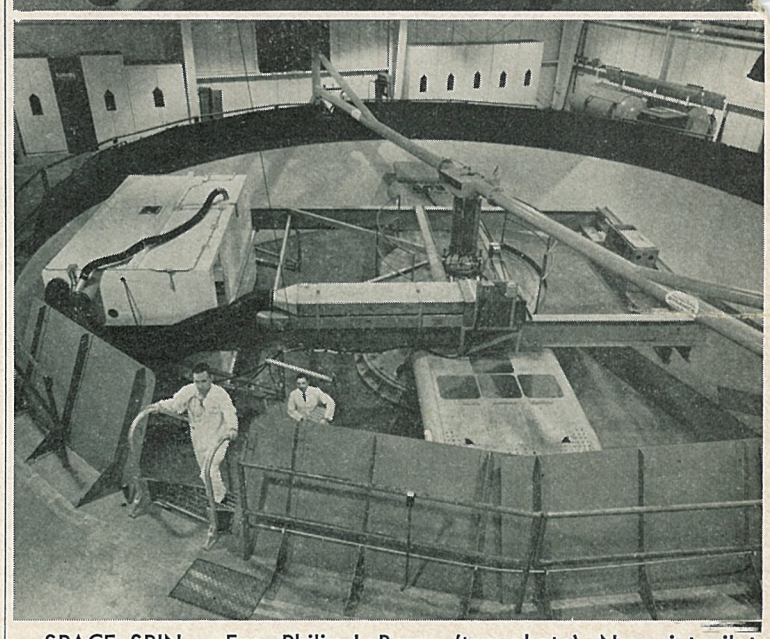
Newsom weighs 145 pounds when he goes aboard the simulator but his weight increases to 206 pounds as it spins! There is no sensation of movement or vibration inside the simulator as it turns. However, it is difficult to walk in a straight line inside the simulator. A marble placed on the floor tends to roll in a spiral.

Activity inside the MRSSS is monitored from outside by closed-circuit television and an intercommunications system. Electrocardiograms of persons aboard are made continuously.

GD/NEWS' Schedule Will Slip a Week

Because of year-end holidays, GD/NEWS will slip its publishing schedule one week. Instead of coming out Jan. 5, which would be the normal bi-weekly schedule, the NEWS will slip to Jan. 12, continuing every other week thereafter.





SPACE SPIN — Ens. Philip LaBerge (top photo), Navy jet pilot, is positioned in Coriolis chair inside Manned Revolving Space Station Simulator at Convair for head motion and performance tests. Dr. Bernard Newsom, program manager, explains routine. Below is overall view of giant centrifuge that spins simulated space station.